The Builder.

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ILLUSTRATIONS.

International Exhibition, Philadelphia, 1876:—The Main Exhibition Building (Mr. H. Pettit, Engineer; Mr. Jos. M. Wilson, Architect); United States Government Building (Mr. James H. Windrim, Architect); Women's Pavilion (Messrs. Schwarzmann & Pohl, Architects) 122, 123

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International Exhibition, Philadelphia.

ON the 10th of May next the International Exhibition which has been organised in Philadelphia, at once to celebrate the one hundredth anniversary of American Independence, and to show the progress and resources of the country, will be opened. The great Park of Philadelphia, on which the buildings are located, comprises 3,000 acres of ground, lying along the western border of the city. This fine tract of land is watered by a broad river, navigable for pleasure and traffic, but entirely subordinate in its item of traffic to the pleasure of the visitor; the whole tract, land and river, being under the exclusive control of the Park and Centennial Commission. These grounds have been the resort of the most prominent men of the Revolution; they were the scene of one of the most skilful of Lafayette's actions in the Revolution, and had their share in the battle of Germantown. The mansions in which Baron Steuben, the organiser of the Revolutionary army, and Judge Peters, its Secretary of War, lived are still in perfect preservation.

The new buildings are situated on the south-western border of the river, a reservation exclusively for Exhibition purposes of 450 acres. The ground rises 100 ft. above the river level, and extends in a plain to its western border. The buildings lie mainly in a group, separated by sufficient distances, and present from the elevations of the Park a remarkable sight.

The main buildings, erected by the Building Committee of the Centennial Board of Finance, for the uses of the Exhibition, are five in number, located within easy distance of each other, and so arranged that parties wishing to visit any one department, can, by carriage or horse cars, arrive directly at the gate opening into that department. The buildings will be known as,—I. Main Exhibition Building. II. Art Gallery. III. Machinery Hall. IV. Horticultural Building. V. Agricultural Building. In addition there is a special edifice erected for the exhibition made by the Government of the United States, which forms the sixth of the Exhibition Buildings. In our last volume we gave a view of the Art Gallery.* We now add a view of the Main Building, a view of the Government Building, and one of a subsidiary structure termed the Women's Pavilion.†

The main Exhibition Building, of which Mr. Jos. M. Wilson was the architect, and Mr. Henry Pettit engineer, is in the form of a parallelogram, extending east and west 1,880 ft. in length, and north and south 464 ft. in width.

The larger portion of the structure is one story in height, and shows the main cornice upon the outside at 45 ft. above the ground, the interior height being 70 ft. At the centre of the longer sides are projections 416 ft. in length, and in the centre of the shorter sides or ends of the building are projections 216 ft. in length. In these projections, in the centre of the four sides, are the main entrances, which are provided with arcades upon the ground floor, and central façades extending to the height of 90 ft. The east entrance will form the principal approach for carriages, visitors being allowed to alight at the doors of the building under cover of the arcade. The south entrance will be the principal approach for street cars, the ticket-offices being located upon the line of Elm-avenue, with covered ways provided for entrance into the building itself. The main portal on the north side communicates directly with the art gallery, and the main portal on the west side gives the main passage-way to the machinery and agricultural halls.

At the corners of the building there are four towers, 75 ft. in height, and between the towers and the central projections or entrances there is a lower roof introduced, showing a cornice at 24 ft. above the ground.

In order to obtain a central feature for the building as a whole, the roof over the central part, for 184 ft. square, has been raised above the surrounding portion, and four towers, 48 ft. square, rising to 120 ft. in height, have been introduced at the corners of the elevated roof.

The areas covered are as follow:—

	Square Feet.	Acres.
Ground Floor	872,320 ...	20·02
Upper Floors in projections ...	37,344 ...	·85
Upper Floors in towers	26,344 ...	·60
	936,008	21·47

The general arrangement of the ground plan shows a central avenue or nave 120 ft. in width, and extending 1,832 ft. in length. This is the longest avenue of that width ever introduced into an Exhibition building. On either side of this nave there is an avenue 100 ft. by 1,832 ft. in length. Between the nave and side avenues are aisles 48 ft. wide, and on the outer sides of the building smaller aisles, 24 ft. in width.

In order to break the great length of the roof lines, three cross avenues or transepts have been introduced of the same widths and in the same relative positions to each other as the nave and avenues running lengthwise, viz.: a central transept, 120 ft. in width by 416 ft. in length, with one on either side of 100 ft. by 416 ft., and aisles between of 48 ft. The intersections of these avenues and transepts in the central portion of the building result in dividing the ground-floor into nine open spaces free from supporting columns, and covering in the aggregate an area of 416 ft. square. Four of these spaces are 100 ft. square, four 100 ft. by 120 ft., and the central space or pavilion 120 ft. square. The intersections of the 48 ft. aisles produce four interior courts, 48 ft. square, one at each corner of the central space.

The main promenades through the nave and central transept are each 30 ft. in width, and those through the centre of the side avenues and transepts 15 ft. each. All other walks are 10 ft. wide, and lead at either end to exit doors.

The foundations consist of piers of masonry. The superstructure is composed of wrought-iron columns, which support wrought-iron roof trusses. The columns are of rolled channel bars, with plates riveted to the flanges. Lengthwise of the building the columns are spaced at the uniform distance apart of 24 ft. In the entire structure there are 672 columns, the shortest being 23 ft., and the longest 125 ft. in length. Their aggregate weight is 2,200,000 lb.

The aggregate weight of iron in the roof trusses and girders is 5,000,000 lb. This building being a temporary construction, the columns and trusses are so designed that they may be easily taken down and erected again at another site.

The sides of the building for the height of 7 ft. from the ground are finished with brickwork in panels between the columns; above the 7 ft., with glazed sash. Portions of the sash are movable for ventilation. The roof-covering is of tin upon sheathing boards. The ground flooring is of plank, upon sills resting upon the ground, with no open space underneath.

All the corners and angles of the building upon the exterior are accentuated by galvanised iron octagonal turrets, which extend the full height of the building from the ground level to above the roof. These turrets at the corners of the towers are surmounted with flagstaffs, at other places with the national eagle.

The national standard is placed over the centre of each of the four main entrances. Over each of the side entrances is placed a trophy showing the national colours of the country occupying that part of the building. At the vestibules forming part of the four main entrances variegated brick and tile have been introduced.

The building stands nearly due east and west, and is lighted almost entirely by side light from the north and south sides. Louvre ventilators are introduced over the central nave and each of the avenues. Skylights are introduced over the central aisles.

A system of water supply, with provision of fire-cocks, &c., is provided for protection against fire, and for sanitary purposes; and offices for foreign commissions and for the administration are placed in the ends of the building and on the second floor.

The departments of the classification will be placed in parallel sections running lengthwise of the building, from east to west, and will be wider or narrower in proportion to the bulk of the articles exhibited. The countries exhibiting will be located geographically, in sections running crosswise of the building, from north to south.

The building will cost $1,600,000, and Mr. Richard J. Dobbins, of Philadelphia, is the contractor.

* Vol. xxxiii., pp. 118, 119.
† See p. 121.

Mr. Dobbins, we may add, secured the contract at a sum far below that of any other bidder, although there was a great competition. He has had a wide experience, with a practical education in the service of the United States Government, under General Meigs.

The wrought-iron is rolled by Messrs. A. & P. Roberts, of the Pencoyd Works, near Manayunk, Philadelphia, and is manufactured by Messrs. William Sellers & Co., at Edgemoor Works, near Wilmington, Delaware. The cast-iron work is made by Morris, Tasker, & Co., of Philadelphia. The erection of the iron frame-work is done by the Watson Manufacturing Co., of Patterson, N. J., and was carried on at the rate of fifty tons per day. The galvanised iron-work is manufactured by the Kittredge Cornice and Ornament Co., of Salem, Columbiana County, Ohio.

It will be understood by our readers that the Main Exhibition Building will be the principal object of attraction; in it will be displayed, under the flag of each country, all the manufactures, inventions, and products of each, so arranged that the visitor can pass from one country to another geographically, or follow, if he chooses, any one product in its course through the several nations. How this will work has to be seen.

The Government Building grew out of a belief that it is desirable the Executive Departments of the Government of the United States, in which there may be articles suitable for the purpose intended, should send such articles and materials as will, when presented in a collective exhibition, illustrate the functions and administrative faculties of the Government in time of peace, and its resources as a war power, and thereby serve to demonstrate the nature of American institutions, and their adaptation to the wants of the people. For the purpose of securing a complete and harmonious arrangement of the articles and materials thus designed to be exhibited from the Executive Department of the Government, a Board was charged with the preparation, arrangement, and safe-keeping of such articles and materials. By an Act of Congress, an appropriation of $505,000 was placed at the disposal of the Board for the arrangement of this exhibition, $150,000 of which are to be expended in the erection of the special building for its accommodation. The dimensions of it are 360 ft. by 300 ft. The architect is Mr. James H. Windrim.

As to the *British Section*, the latest advices state that the machinery building is quite finished, and that any fears which might have been entertained as to the possible completion of the industrial hall within the period fixed by the American executive, have been set at rest. The fine-art building, which is intended to serve as a memorial hall, was covered in before the approach of the winter, so no apprehensions as to damp need be entertained. This fine building will be presented in a completed form, and not, as has been too frequently the case with fine-art galleries at International Exhibitions, in an unfinished condition.

Owing to the liberality of the Anglo-American Telegraph Company, who send all messages of the executive without charge, the preliminary arrangements of the British Section have been much assisted. Three officials of the British staff are already in Philadelphia with instructions to aid exhibitors in the reception of their goods.

The Executive Commissioners will enter on their duties at Philadelphia at early dates, Professor Archer leaving England this week, and his colleague, Colonel Sandford, R.A., will follow.

Messrs. Appleby Bros. and Messrs. Aveling & Porter despatched one steam-crane and two traction-engines at the end of last month, and four other engines from the same firms (the whole for the use of the British and American executives), to assist in the unloading of goods, will be speedily forwarded. We understand, also, that Messrs. Galloway & Sons, of Manchester, have contributed three boilers to the British Section, for the reception of which the best boiler-house yet erected at any exhibition has been prepared.

The offices, barracks, and workmen's quarters of the British Commission, three in number, surrounded by trees, and situated in one of the most picturesque portions of Fairmount Park, form a very striking group, and have already attracted much attention in the States as reproductions of Old English architecture, recalling to the minds of travelled Americans many quaint buildings in the old country. A number of our principal manufacturers have, in the most handsome manner, combined in the furnishing and decoration of the offices, which, when completed, will, it is asserted, whilst retaining the old-world air to be expected from their exterior, convey an excellent idea of the English decorative art of the present day.

We may name amongst these firms Messrs. Barnard, Bishop, & Barnards, who will contribute some of their artistic works; Messrs. Cooper & Holt, who are furnishing the offices in the Mediæval style; Messrs. Daniell & Son and Doulton & Co., who will supply choice specimens of porcelain and Lambeth faïence; Messrs. Elkington, who have placed at the disposal of the executive an unlimited collection from their choicest art-treasures; Messrs. Eastwood & Co., the roofing tiles, finials, and terra-cotta chimneys; Mr. John Lewis, the carpets needed throughout the offices; Messrs. Minton, Hollins, & Co., encaustic paving tiles for the hall and verandah; and Messrs. Gardner the various lamps required.

In the Machinery Hall a considerable space has been allotted to British exhibitors, and a full representative display of the various classes of machinery is confidently looked for. The collection of stone-dressing machines will be large, containing some novel features.

Armour-plates may be looked upon as an English speciality, and in that section our display will be simply unrivalled.

The collection of models, both miscellaneous and railway engineering, is very complete, and last, though not least, we may state we shall present a large collection of fuel economisers.

The Indian Court will occupy one of the most prominent positions in the main avenue of the industrial hall, and it is proposed, in place of making the Indian Section, as in all previous exhibitions, rather a museum of curios than an industrial display, to practically exemplify her great resources by an exposition of raw and mineral productions, and a complete representation of the various industries for which she is renowned.

Canada, from its proximity to the States, will naturally be a large exhibitor, and a numerous and influential Commission, comprising the Governor-General, Lord Dufferin, and other notables of the Dominion, are using every effort to secure a thorough representation.

A word or two now as to our artistic representation. Her Majesty's Treasury having placed a sum of money at the disposal of the British Executive for the purposes of the Fine Art Section, the Duke of Richmond requested a number of artists and collectors to form a committee to secure an adequate and representative display of the works of deceased and living artists of the British School at Philadelphia.

This committee, having for its president Sir Francis Grant, numbers amongst its members Mr. Millais, Mr. Calderon, Mr. Leighton, and Mr. Redgrave, Royal Academicians; Mr. Clint, president of the Society of British Artists; Sir John Gilbert, president of the elder branch of Painters in Water Colours, the Society, and Mr. Louis Haghe, president of the junior, the Institute. Mr. Holman Hunt, Mr. Val Prinsep, and Mr. Frederick W. Burton, director of the National Gallery, are also on the committee; whilst Mr. Calder Marshall is the representative sculptor.

Amongst the collectors and others who consented to serve are Mr. Bolckow, M.P., Mr. Eaton, M.P., Mr. Fox, Mr. Albert Grant, Mr. Thomas Lucas, Mr. W. Smith, F.S.A. The secretary to the committee, Mr. Samuel Redgrave, having resigned through ill-health, Mr. Joseph M. Jopling has been appointed his successor and superintendent of the Fine Art Section.

Her Majesty the Queen has been most graciously pleased to place five pictures at the disposal of the British Executive, "The Marriage of the Young Princess," by Northcote, R.A., and "The Marriage of H.R.H. the Prince of Wales," by Mr. Frith, R.A., both from Buckingham Palace. From Windsor Castle will be sent "The Meeting of the Members of the Royal Academy," a work well known through engravings, by Zoffany, R.A., and "The Portrait of Her Majesty in Coronation Robes," by Sir George Hayter, late painter in ordinary to Her Majesty; while Hampton Court Palace will contribute a work of much interest to Americans, both from its subject and artist, "The Death of Wolfe," by Benjamin West, P.R.A.

The Royal Academy has consented to send, paying the costs of freight and insurance, diploma paintings and busts by the following deceased members of the body:—Etty, Clarkson Stanfield, Constable, Newton, Mulready, Owen, Turner, Hilton, Richard Wilson, Sir David Wilkie, Benjamin West, John Francis Rigaud, Sir Augustus Calcott, Fuseli, Sir Joshua Reynolds (two works), Creswick, Maclise, and Sir Edwin Landseer. The busts are two in number, that of Flaxman, by Baily, and of Benjamin West, by Sir Francis Chantrey.

The Executive Commissioners have reserved, in the section of the Fine Art Gallery allotted to Great Britain, space for the exhibition of architectural designs. Further information on this point will be found in a letter read at the last meeting of the Institute of Architects, and reproduced on p. 120 of the present number of the *Builder*.

South Kensington will contribute a highly interesting and instructive collection, instructive in its records of the rise of art industry in England, and interesting from the admirable drawings of the various courts, and the specimens of the terra-cotta, majolica, and tesseræ used in the construction of the buildings.

It will be obvious to our readers, from what we have previously said, that the Centennial Commissioners have provided ample and handsome accommodation for the proposed exhibition, and we sincerely hope that the result will be a very glorious assemblage of the world's produce with large numbers of visitors to see and profit by it.

THE PRESENT AND FUTURE OF THE INSTITUTE.

Now that, as we noted last week, the first turning-point of the present discussion as to the affairs of the Institute is passed, and it has been determined that any proposals for improvement in its working are to be narrowed to the scope and intent of the original charter, it seems a favourable moment to offer one or two considerations as to the why and wherefore of this rather sudden and ardent impulse for reform; what it means, what has made it necessary (if it be necessary), and what is the best way of turning it to account for the advantage of the Institute, and of the profession which that body represents.

In the first place, we cannot help thinking that rather too much of what we should call "fuss" has been made about the simple and by no means unheard-of incident of a society of this kind setting its house in order a little,—a sort of fuss, too, which, to say truth, contrasts rather ludicrously with the almost entire apathy of outsiders on the subject. Almost every such society does come to a point in its history at which there is a want of relation between old forms and new notions, and a want, perhaps, of complete cordiality and understanding between an older and a younger generation of members. It is just the same sort of thing that we see frequently in the case of old and respected periodicals, which have fallen into a groove a little behind the age, and lose some of their original influence, until a little fresh start is made, and our old friend the *Monthly Inquisitor*, or whatever its name may be, appears with the words "New Series" in the margin of the title-page, as a delicate indication that some new blood has been introduced. Now this is really all that is happening, or that need happen, to the Institute. To judge from the tragic wailings which reach us from some quarters, it might be supposed that the "Royal Institute of British Architects" was on its last legs; that it was hopelessly insolvent in funds and intellect; and that all that remained was to provide for a decent interment. Surely a society which can show a constant increase in numbers and in revenue for years back, which is more than paying its way, which owes the rather too narrow margin between expenses and revenue almost entirely to increased business and increased activity, which is presenting to its members, during the present month only, an essay on a most important class of Mediæval buildings by one of our most learned archæologists, and another on the elucidation of one of the most beautiful ancient Greek temples by an architectural critic and student of European reputation, surely such an Institution is in no such very bad way; its form

> "Has yet not lost
> *All* her original brightness."

The Institute is going into a "New Series," that is all.

At the same time, we do not deny that a fresh start is desirable, and, in fact, called for. But let us, if possible, clearly understand why it is called for, and what is the real origin and meaning of the present movement. The whole

matter arose, if we understand it aright, out of a wholesome anxiety in the minds of the governing body of the Institute as to the too near encroachment of the annual expenditure on the margin of the annual revenue. The committee, whose report has been the occasion of the special meetings now being held, came in the main to the conclusion that the too tardy increase of revenue was due to, and indicated a want of general interest in the proceedings of the Institute, and, therefore, that the question suggested a general scheme of reform with the object of in every way enlarging its borders and giving it a wider influence in the profession and a more nationally representative character than it could at present lay claim to. In making out their scheme the committee found, or believed that they found, the existing charter entirely in their way, and obstructing them at every turn, and proposed, as a first step, the application for a new charter. Believing this to be, as we have already said, a mistake, we must admit, nevertheless, that the raising of this question has been indirectly beneficial; for it is probably almost entirely owing to that proposal, and to the opposition which it provoked, that what one speaker called a "stirring among the dry bones" was induced, which led to two of the most crowded and animated meetings that have taken place for a long time in the Conduit-street Rooms. This result at least seems to have given a great deal of satisfaction; there was a general kind of congratulatory tone; members who had not met for years expressed their cordial pleasure and surprise at the fortunate *rencontre;* and so on. It is odd that no one seems to have perceived that all this has a double significance; but we venture to say that if all who thus met and joined eagerly in the debates at these two special meetings had attended the ordinary meetings of the Institute with the same zeal, and shown the same interest in its proceedings and its welfare which they suddenly and unexpectedly evinced on this occasion, these said meetings need never have taken place at all, and there would have been no pretext for any committee to draw up a report on the affairs of the Institute, unless in the form of a congratulatory address upon its brilliant and increasing success.

As it is, there is no doubt that the attendance at the ordinary meetings of the Institute has very much fallen off of late years, and (though some may have had their good reasons for stopping away) has certainly become far too much limited to a certain set of members who show a praiseworthy perseverance and loyalty in their regular attendance, but who, of course, cannot of themselves keep the ball rolling as it should be. This fact of non-attendance is in itself at once a cause and a consequence of that lack of "vigour" in the proceedings of the Institute which seems to be pretty generally admitted; and it arises in the first instance mainly, we believe, from two defects,—one in the administrative department, the other in the general body of members of the Institute. To take the second first, we have to complain of a gradual, but of late increasing, development of a party or "clique" spirit, which has been the ruin of similar associations before now. How this works all who are familiar with the ins and outs of architectural politics in London know very well. A certain set of professional men, for example, of very pronounced opinions, think they ought to have the upper hand in regulating the concerns and influencing the spirit and policy of the Institute; and because they have not this, they will have nothing to do with it. Another set profess a dislike to set No. 1; or their "consciences" will not allow them to support Mr. So-and-so as a president; or some equally public-spirited feeling is in the way. All the while the absurd thing is that those, the "pronounced" gentlemen especially, who thus stand aloof from all active participation in affairs, are the loudest in raising the cry of "want of vigour,"—the Institute should do this, that, and the other, which they blame it for not doing,—while at the same time they do not raise a finger to assist in the good work, and are never seen at a meeting except when they have some particular grievance of their own to complain of. Now, without for a moment flattering these gentlemen by inferring that they have the prosperity of the Institute in their own hands (though there are some very clever men among them), we cannot but recognise the truth that *l'union fait la force*, and that it is hopeless to look for any real or permanent improvement in the prosperity of the representative body of architects so long as this absurd and narrow spirit of partisanship prevents it from really being a representative body at all. If these complainants, instead of standing aloof and declaring that this or that ought to be done, had frankly joined their brethren, and put their own shoulders to the wheel, much of what they wanted, or of that part of it which was desirable and reasonable, would have been accomplished. Some people, however, as we all know, prefer to have a "grievance," and are never happy without one. The other defect, which we touch upon with more reluctance, is that since the abrogation of the honorary system of work, the administration of the Institute is thought to have become too personal in character. We have no desire, on our own part, to make any unkind reflections, and we are told on good authority that in the minor but still very important details of the conduct of business, the Institute has never been so well served as it is at present; a statement which we have certainly no reason to discredit. But that the complaint referred to remains we have received evidence too often to be justified in ignoring it, if we are to deal with the subject at all. Without inquiring too closely under what influences the present position of things has been brought about, it must be obvious to every one that if an official acting under any public society is allowed to become practically the regulator of its affairs, though that may not in every case be bad policy, the prosperity of the society must be very dependent, not only on the personal energy and ability, but on the personal popularity, of its official representative; and that in such a case it is not to be wondered at if all parties find themselves sooner or later in somewhat of a false position, not particularly agreeable to any one. Enough on that head; but the remark will be found to have a bearing on one of the propositions that have been made for giving increased vitality to the working of the Institute.

So much for the present not entirely satisfactory position, and some of the causes that have led to it. The schemes for amending the position seem in the main to resolve themselves into four principal heads; the admission or invitation of the Associate class of members to a larger share in the government of the Institute; the extension of the educational machinery of the Institute; the establishment of a direct and formulated relationship between the Institute and the various provincial societies; and the enlargement and improvement of its premises. The first-named part of the reform scheme seems to have been the one most on the mind of the special committee, and for which in particular they declared a new charter to be necessary. The more we consider the matter, the more surprise we feel that such a body of sensible, and for the most part practical, men, as the Fellows and Associates who constituted the committee, should have proposed such a step as the throwing over of the charter for the sake of a scheme which, in its essential result upon the constitution of the Institute, would really amount to very little more than giving different names to the existing classes of members. All who are directly interested in the matter have the scheme of the committee before them, and can judge whether we are not correct in saying that it would in its practical working result in making the Fellowship the same kind of honorary distinction that the gold medal now is; taking from the Fellows their distinctive title, and merging them with the elder Associates in a large class with a very undistinctive title, and mixing the younger Associates with the Contributing Visitor class. This last is the only part of the whole affair which would really amount to an important constitutional alteration, and it is one in the wrong direction. Now, we think the Associate class at present does comprehend a considerable number of clever and energetic men, whom it would be well to have more actively connected with the work of the Institute. This is partly, however, a matter of accident; it happens at the present time that there are a good many men not quite old enough in practice to comply with the conditions of Fellowship, but of whom a large proportion probably will become Fellows in two or three years, when their stipulated seven years are made up. There are others (a considerable number, we suspect) who are qualified to stand as Fellows, and who ought to do so, and if they do not cannot complain of not having their privileges. But, as to the younger Associates, their place in the Institute might be made a most valuable one, if they were given the opportunity and the option of taking part more largely and systematically in voluntary work in connexion with the conduct of the general and special business of the Institute, on sub-committees, and in other ways. There is plenty of valuable work that may be done in this way, and many who would be glad to assist in it; and this idea is what appears to us the best course towards breaking through that purely personal administration to which we referred above, and which has become a subject of dislike and complaint to many. As to the present class of Associates, those who are not yet eligible as Fellows, considering themselves aggrieved because by the charter they can have no actual vote in the affairs of the Institute, we have a better opinion of the understandings of the Associates generally than to suppose that they are swayed by any such nonsense. They would at all events be very short-sighted to complain of a rule which is intended to secure the status of the class to which they themselves will ultimately belong.

The extension of the student-class, and the increase of educational power, is another part of the proposed reform. Now, in regard to this question, it must be remembered that the Institute was never founded or intended as an educating body. In the original charter there was not even any mention of student-members at all; they were constituted by a by-law in 1838, the object of which was simply to admit articled pupils of architects to the use of the library and the advantage of attending the meetings. To attempt to make the Institute a college of instruction in architecture would be to attempt an impossibility. It was never constituted for such an object, and has not and cannot, consistently with fulfilling its prior objects, provide the machinery for such an undertaking. All it can do is to offer prizes specially for that class of members, and to admit them to the use of the library, and any other opportunities for the interchange of knowledge and ideas which the Institute furnishes to its members generally. This is provided by the by-law of 1838, at a subscription of a guinea; and the proposed lowering of the student's fee to half that amount, with the idea, we suppose, of competing for students with the Association, would be distinctly a step in the wrong direction. However little one may think of money as a gauge of respectability in one sense, there is no doubt that in architecture, as in the matter of the franchise, it is no bad working test of eligibility in the long run. The Architectural Association, on the other hand, has by degrees founded an extensive machinery for instruction and self-education, by which it is, in fact, doing great part of the work of instruction which private practitioners in the profession ought by rights to be themselves imparting to their pupils. The question arises upon this,—and it is one of the points that has been most discussed,—should the Association, which has all this educating machinery ready and at work, be incorporated with the Institute, thus receiving the advantage of its status and position, and continuing its educational work? There are, of course, two voices to such a proposal, and the junior Society appears to express itself decidedly against it. We cannot help saying that we think the Association is in the wrong in the part it takes in reference to the Institute, and the feeling of narrowness of which it has at times given indications in connexion with the subject. There can be no question that the chief advantage of such a union would, in the end, lie with the Association, whose members do not seem the least to realise the importance of the historical position and recognised status of the Institute,—an advantage independent of mere temporary deficiencies,—nor to understand the important difference in some other points between their body and the Institute. A certain degree of formal connexion between the two might, however, be carried out on such a basis as making the Institute final arbiter of the prizes and recipient of an annual report of the Association, and thus, without interfering with the independent action of the latter, giving it the share of weight and influence derivable from association with the society chartered by the Queen.

This leads us naturally to the next proposition on our list, the closer connexion of provincial societies with the Institute. It seems to us that both the committee and some of those who have joined in discussing their report have made the mistake of putting the cart before the horse, in treating the matter as if it were a policy on the part of the Institute, and for its own good, to persuade the provincial societies to join it. This is only one curious specimen of the amount of "humble pie" which has been consumed already by supporters of the Institute in connexion with

the present movement, and one of the things for which we are greatly indebted to Professor Donaldson is that in the recent discussions he has consistently and firmly upheld the dignity of the society for which he has already done so much. We should scarcely say that to tell the provincial societies, as some members seem practically inclined to tell them, "we are in a bad way, come over and help us," was the most likely way to bring about that result. But there is not the remotest pretext for taking up any such false position. The union of all the provincial societies as subsections of the central society, and bound by the same laws, would (as we have frequently urged) be one of the best possible things for conducing to the unity and strength of the profession in England, and, if properly carried out, for advancing the interests of architecture. But the advantage, even in the present rather slack time of the Institute, would certainly be at least as much for the said provincial societies and the profession at large, as for the Institute locally, upon which the arrangement would impose a large increase of business and of responsibility. That this view is correct we have evidence in the fact, which is within our knowledge, that able provincial architects in large practice have declined to join their local societies because those societies were not connected with the Institute; and a still more pointed indication is that the Institute of Ireland, by far the most active and able of all the extra-metropolitan societies, and whose excellent papers we have often the pleasure of printing at large in our columns,* have themselves taken the initiative in this matter, and wrote more than a year ago to the secretary of the Royal Institute proposing the consideration of a scheme for union. This at least we hope will be carried out. As to the rest, the object is not so much to induce the country societies, as such, to join the Institute, as to induce the profession of British Architects at large to join it more generally; not with the narrow view of merely giving position and *éclat* to the central society, but for the great object of realising the union of the profession under one banner. With this object, the provincial societies would be valuable as a means of working the local business of the profession, if they will conform to the status of professional principles and practice of the Institute. If they will not (and it is said that some of them will not), they, and all members of the profession who think that status too high and too exclusive for them, are better out of the way; for we cannot for a moment contemplate the idea of the Institute lowering even its terms of admission, much less its standard of professional principles, to satisfy those who find these terms too high for their pockets or their consciences (synonymous expressions in some instances). If the Institute is not prepared to keep the standard of the architectural profession as high as it possibly can be kept socially, morally, and intellectually, it will have fallen from its high estate, and had better cease to exist altogether.

This reminds us that an objection which has been raised to the maintenance of the original charter is that it does not furnish a sufficient bar to the admittance of members who might lower the status of the Institute, since by the terms of the charter a meeting is bound to elect any candidate who has a majority of votes, however small. Now in regard to the charter generally, we cannot but endorse the opinion of an able and experienced member, who at one of the special meetings observed that the charter seemed to be in fact about "as elastic a document" as could well be framed; its defect, in reality, consists in its being somewhat too vaguely worded, and it is owing to this that a misapprehension has arisen in regard to this very subject of voting. The passage which is supposed to interfere with the healthful exercise, when necessary, of the privilege of "blackballing," is as follows:—"At all general meetings and meetings of the Council, the majority of members present, and having a right to vote thereat respectively, shall decide upon the matters propounded at such meetings, the person presiding therein having, in case of equality of numbers, a second or casting vote." Now, though no doubt the expression, "matters propounded at such meetings," might be read as including the voting for new members, a consideration of the whole document will render it evident that it is not so intended, for not only is there no reference whatever to balloting, here or in any other sentence of the charter (and the provision for a casting vote seems to show that no such reference was intended), but there is actually a distinct proviso on the next page (Section VII.),—"That the general meetings shall make and establish such bye-laws as they shall deem to be useful and necessary for the regulation of the said body politic and corporate, *for the admission of members*, for the management of the estates," &c. It is perfectly obvious from this (at least one would have thought so) that the Institute would be completely within the "general scope, true intent, and meaning" of the charter in making any reasonable bye-law they think fit in regard to conditions of balloting for membership; there is no bye-law at all referring to the balloting at present; it has been overlooked; but they can pass one at any general meeting. If the sentence quoted from the charter really compelled the adherence to a majority of votes in all possible cases, it has been transgressed already, for the 16th Bye-law provides (page 6) that no member shall be expelled "unless twelve of the Council concur in the vote of expulsion," which, of course, is directly at variance with the "majority" theory. The whole difficulty raised is, in fact, nothing but a "mare's nest."

A consideration which bears upon the question of increasing the country membership, and which in other respects is of more importance than has been quite recognised, is the proposal for new premises. It seems admitted that the enlargement of the present premises, to any good purpose, is impossible. Now, without endorsing, in its full dimensions, a certain rather Utopian scheme which a very enthusiastic Fellow intends, we believe, to bring forward at one of the special meetings, and the heads of which are before the members of the Institute, we cannot but feel that a worthy outward and visible sign of the existence of the central professional body in London, a new house for the architects, commensurate in dignity and artistic character with the aims of the profession, and within the walls of which everything connected with those aims could be collected, would be one of the best moves that could possibly be made. The architectural profession is, in regard to the general public, in far too hole-and-corner a condition; and external circumstances have their effect in this respect. Who would ever suppose that the meagre-looking cemented front in Conduit-street, with the ill-ventilated and ill-arranged meeting-room, was the home of a body which received a Royal Charter on the ground that it represented "an art esteemed and encouraged in all enlightened nations as tending greatly to promote the domestic convenience of citizens and the public improvement and embellishment of towns and cities"? The building of an adequate house would of course have to come chiefly out of private subscription, the Institute having no funds adequate to such a purpose; but the Institute itself arose in the first instance out of private subscriptions.* And if the architects would join together to show their pride and interest in their "guild" by erecting a building which would be itself a good specimen of their art, which could include the Architectural Museum, and whatever addition to these collections may be made from time to time, and which would furnish also a desirable and comfortable house of call, in the nature of a club, to all country members coming to town, they would perhaps do more to establish their position both in the metropolis and in the country generally than by any other of the propositions which have been made with that object: and we do not see that such a scheme is by any means an impossibility.

To carry out such a scheme would, in fact, only need what is, as we have already half hinted, the leading desideratum, the want of which has given rise to the present state of inquiry and stirring up of everything in the Institute,—a more thorough unity and *esprit de corps* among members of the profession, and more particularly among those within the walls of the Institute. If the Society which was established to represent the united action and interests of the architectural profession is itself disunited by parties and jealousies, how can it adequately fill the *rôle* assigned to it? And this would be our reply if it were urged that in the foregoing remarks we had, while admitting a good deal that is not satisfactory in the present condition of the Institute, nevertheless rather discountenanced most of the propositions for reform put forward by the special committee. We have done so, because we believe they involve needless disturbance of the constitution of the Institute, which will break the continuity of its history, and which will not attain the end proposed, because the real defect is not of a nature to be cured by mere constitutional changes. What we want to see put an end to is the want of cordiality and confidence between different parties in the profession; the abolition of all "parties" in fact. If each individual member will do his best to promote the real objects with which the central society was founded, and put aside partisanship, there will be no difficulty about its taking the place in the country which theoretically it is entitled to take. The whole philosophy of the matter in regard to the present position of the Institute, is (to alter Shakspeare a little),—

> "To your own selves be true,
> And it will follow, as the night the day,
> You cannot then be false to any one."

* The managing body, like wise people, seek to obtain for their papers the widest publicity possible.

* "And have subscribed and paid considerable sums of money for these purposes."—Charter, page 1.

THE DECORATIONS AT THE HOUSES OF PARLIAMENT.

DECORATIONS of a varied character have for some time past been in progress at the Houses of Parliament and their approaches, in anticipation of the opening of the session on Tuesday next, and externally the neighbourhood of St. Stephen's now presents a much more cheerful aspect than it has hitherto done. One of the most prominent features of the decorations, as the house is approached, is the regilding and ornamental work at the iron palisading enclosing Palace-yard, which has been in progress during the last three months, and finished this week. It is now several years since this portion of the boundaries was renovated, and the work has materially added to the ornamental appearance of the approaches. The cresting of the palisading, with the crowns and large globular lamps by which it is surmounted, have all been regilt, the operation necessitating the enclosure of the palisading by the erection of a movable wooden structure. Several portions of the interior of the house itself have likewise undergone renovation and decoration, notably St. Stephen's Hall, which has been to a large extent transformed in its mural aspect, besides other improvements which have been effected. The walls have been covered with a flock paper having raised embellishments, whilst the mullions of the windows and other stone work have been repainted, and covered with a painted solution, in order to render them impervious to the action of the damp atmosphere arising from the proximity of the river. The "lobby" of the house has likewise been improved in appearance, by the laying down of tesselated pavement at one of the entrances, whilst the walls of the lobby itself have been thoroughly cleaned; and finally, in consequence of her Majesty having decided to open Parliament in person, the throne has been regilt and the upper chamber re-embellished, and all the apartments which will be used by her Majesty and the great officers of state have been freshly fitted up. The apartment known as the Minute Room, close to the Prince's Chamber, has likewise been fitted up as a retiring-room for her Majesty.

Her Majesty's Theatre.—Having been appealed to to set at rest contradictory assertions published, we have enabled ourselves to state that the Government has *not* purchased the opera-house in the Haymarket, either for a post-office or any other purpose.

* It has been suggested by Mr. Arthur Cates (with the concurrence of Mr. Horace Jones and Mr. F. C. Penrose) that in the event of Mr. Horace Jones's amendment being carried as a substantive resolution, the reference to the Council should take the following form, viz:—

"That the subject of the steps which should be taken to improve the efficiency and ensure the prosperity of the Institute, together with the report of the Committee;—the minutes of the proceedings at the special general meetings at which such report has been considered;—the several amendments and proposals submitted;—and such further suggestions as may be submitted;—be referred to the Council for consideration, and to report thereon to a special general meeting:

And that the Council be requested to act on the authority of Bye-law 30A, and invite the past vice-presidents to attend their meetings on this subject, and to take part in their deliberations, and also to appoint sub-committees (not necessarily exclusively members of the Council) to consider the several heads into which the inquiry would divide itself, and to report thereon to the Council. Each sub-committee to appoint a chairman, who *shall* be a member of the Council, and a secretary who *may* be an Associate, and to be subject to such regulations as the Council may lay down."

PEPYS'S LONDON.*

SAMUEL PEPYS, Secretary to the Admiralty in the reigns of Charles II. and James II., and some time President of the Royal Society, has taken rank as a general favourite ever since the first publication of his remarkable diary, and few of us are tired of reading those characteristic touches that reveal the diarist's inmost thoughts and feelings. It has long been known that we did not possess the whole of the diary, but now, thanks to Mr. Mynors Bright, we for the first time learn something of what was rejected by Lord Braybrooke, and Pepys-lovers will be able to revel in new matter that is equal to a third of the whole book.

Pepys was a thorough Londoner, who seldom left the town, and as he was also a minute reporter of every occurrence that came under his notice, his diary must always be esteemed an important help to our knowledge of the state of London in the seventeenth century. We therefore propose to gather together a few of the London notices that are now printed for the first time, and to place them before our readers with some explanatory notes.

When Pepys began to keep a diary in January, 1659–60, he was living in Axe-yard, King-street, Westminster, a place long since swept away, and upon the site of which Fludyer-street was built in 1766. He appears to have been employed as a clerk under Mr. (afterwards Sir) George Downing, in some office connected with the pay of the army. A few months later, when the king was restored to the throne, Pepys was appointed Clerk of the Acts of the Navy, and obtained an official residence in Seething-lane, Great Tower-street, a place famous as having once had Sir Francis Walsingham as a resident. He also held an office as a deputy for his patron the Earl of Sandwich, who was Clerk of the Privy Seal, and the constant communication that was necessary between the Navy Office and the Admiralty took him often to Whitehall, to which place he usually went by water, and when going in his boat to Westminster he frequently stopped at Blackfriars in order to visit Lord Sandwich at the "Wardrobe," where the royal clothes were kept. This almost constant use of the river as a highway is a marked feature of the habits of the time, which is illustrated by the fact that Pepys makes a point of, mentioning that he went to a place "by land" (as "March 8, 1659–60, Home about two o'clock and took my wife *by land* to Paternoster-row to buy some Paragon for a petticoat, and so home again"), when from some cause or other he did not take a boat. On April 6th, 1662, we read, "After I was tired I went and took boat to Milford-stairs, and so to Gray's-inn walks, the first time I have been there this year, and it is very pleasant, and full of good company." These stairs were at the foot of Milford-lane, Strand, which is described in Gay's "Trivia," in the following unflattering lines:—

> "Behold that narrow street, which steep descends,
> Whose buildings to the slimy shore extends."

One Sunday night (April 20, 1662) our diarist passed through the "rapids" under London Bridge, and did not like the sensation he experienced. "And so to Whitehall to Sir G. Carteret, and so to the Chappell, where I challenged my pew as Clerke of the Privy Seale and had it, and then walked home with Mr. Blagrave to his old house in the Fishyard, and there he had a pretty kinswoman that sings, and we did sing some holy things, and afterwards others came in and so I left them, and by water through the bridge (which did trouble me) home, and so to bed."

On February 8, 1659–60, we find a reference to one of the *désagrémens* of walking the streets of London. "My father and I went down to the kitchen and there we ate and drank, and about nine o'clock I went away homewards, and in Fleete-street, received a great jostle from a man that had a mind to take the wall, which I could not help."

Pepys was very fond of his wife, but the two often had little "tiffs." Here is a notice of one on April 14, 1661:—"Then to my father's, and after supper seemed willing to go home, and my wife not seeming to be so too I went away in a discontent; but she, poor wretch, followed me as far in the rain and dark as Fleet Bridge to fetch me back again, and so I did."

On May 19, 1662, he has a supper at Moorfields, which does not agree with him. "After dinner Sir W. Pen and his daughter and I and my wife by coach to the theatre, and there in a box saw "The Little Thiefe" well done. Thence to Moorefields, and walked and eat some cheesecake and gammon of bacon, but when I was come home I was sick."

Our forefathers enjoyed advantages that we do not possess, and not the least of these was the nearness of the fields and country lanes to their offices and shops. Pepys often indulged himself in a walk or romp over the grass that is now covered with bricks. On July 29, 1660, "I dined, and in the afternoon, with Dick Vines and his brother Payton, we walked to Lissongreene and Marybone and back again." On October 9, 1660, "I met with Sir W. Pen again, and so with him to Redriffe by water, and from thence walked over the fields to Deptford, the first pleasant walk I have had a great while, and in our way had a great deal of merry discourse, and I find him to be a merry fellow and pretty good natured, and sings very loose songs." On June 4, 1661, "I went over the water and walked over the fields to Southwarke, and so home and to my lute."

A walk to the Half-way House, on the Surrey side of the river, was a favourite one with Pepys. On May 20, 1662, we read:—"Thence to Tower-wharfe, and there took boat, and we all walked to Halfeway House, and there eat and drank, and were pleasant, and so finally home again in the evening, and so good night, this being a very pleasant life that we now lead, and have long done; the Lord be blessed, and make us thankful. But though I am much against too much spending, yet I do think it best to enjoy some degree of pleasure now that we have health, money, and opportunity, rather than to leave pleasures to old age or poverty, when we cannot have them so properly." On June 13th, and again on the 20th, he has "a most pleasant walk" to the same place.

When we read the account of frequently recurring convivialities, we are apt to misjudge Mr. Secretary Pepys and his companions, and to think that work was neglected. We must, however, remember how much habits have changed, and take into consideration the fact that our ancestors often did a day's work before the hour at which we now turn out of bed. Pepys sometimes went to his business at four o'clock in the morning, and his usual round of occupations may be summed up as follows:—About six to the office, about eight or nine to a tavern for a morning draught, at noon to dinner, after dinner sometimes back to the office, but more frequently drinking at a tavern or to the theatre, then a walk, and home to bed, sometimes as early as nine o'clock. On June 12, 1662, we read:—"Thence to dinner, by Mr. Gauden's invitation, to the Dolphin, where a good dinner; but what is to myself a great wonder, that with ease I past the whole dinner without drinking a drop of wine. After dinner to the office, my head full of business, and so home, and it being the longest day [old style] in the year, I made all my people go to bed by daylight."

When the days grew shorter walkers in the streets after dark had to make use of torchlight, as we find by an entry on September 11, 1661: "At the office all the morn, dined at home, and so to the Wardrobe to see my lady, and after supper with the young ladies, bought a linke and carried it myself till I met one that would light me home for the linke. So he light me home with his own, and then I did give him mine."

None of our diarist's days passed without a visit to some tavern, for a morning draught, or a pint of wine after dinner. The notice of these little jovialities has preserved to us the names of several old inns, such as the Star, Half Moon, Harp and Ball, Swan, Bull Head, Plough, Lion, Cock, Greyhound, Globe, Mitre, Cardinal's Cap, King's Head, Hercules Pillars, Trumpet, &c. Here is an account of a friendly meeting at one of these places. "While we were drinking, in comes Mr. Day, a carpenter in Westminster, to tell me that it was Shrove Tuesday, and that I must go with him to their yearly clubb upon this day, which, I confess, I had quite forgot. So I went to the Bell, where were Mr. Eglin, Veezy, Vincent a butcher, one more, and Mr. Tanner, with whom I played upon a viall and he a viallin, after dinner, and were very merry, with a special good dinner, a leg of veal and bacon, two capons and fritters, with abundance of wine."

On January 10th, 1659–60, Pepys "drank a pint of wine at the Star in Cheapside," and on May 24th, 1662, he took his "morning draft" at the same house. Here is an amusing account of the events of a day:—"Jan. 12., 1659–60, I drink my morning at Harper's with Mr. Shepley and a seaman, and so to my office, where Captain Holland came to see me. After that I went home, and thence to the Half Moon, where I found the Captain and Mr. Billingsby, and Newman, a barber, where we were very merry, and the young man that plays so well on the Welsh harp. Billingsby paid for all. Thence home, and finding my letters this day not gone by the carrier, I new sealed them; but my brother Tom coming, we fell into discourse about my intention to feast the Joyces. I sent for a bit of meat for him from the cook's, and forgot to send my letters this night. So I went to bed."

The following entry contains a notice of two inns, and the record of a curious custom:—

"Jan. 20, 1659–60. I met with Mr. Woodfine, and drank with him at the Sun in Chancery-lane, and so to Westminster Hall, where at the lobby I spoke with the rest of my guests, and so to my office. At noon went by water with Mr. Mayd[illegible] and Hales to the Swan, in Fish-streete, at our Coal Feast, where we were very merry at our jole of ling, and from thence, after a great and good dinner, Mr. Falconberge would go and drink a cup of ale. Thence calling on Mr. Stephens and Wootton, with whom I drank, about business of my Lord's, I went to the Coffee Club, where there was nothing done but choosing of a commitee for orders. Thence to Westminster Hall, where Mrs. Lane and the rest of the mayds had their white scarfs, all having been at the burial of a young bookseller."

The Swan in Old Fish-street is mentioned in an inquisition held before the mayor and aldermen in 1413 as "The Swan on the Hoop." The house was destroyed in the Great Fire, but was rebuilt and advertised to be let in the *Spectator* of April 25, 1712. On February 16, Pepys again goes to the Sun and exhibits his frugal mind. "We went to the Sun Taverne in expectation of a dinner, where we had sent us only two trencherfulls of meat, at which we were very merry, and here we staid till seven at night, I winning a quart of sack of Shaw that one trencherfull that was sent us was all lamb and he that it was veal. I by having but 3d. in my pocket made shift to spend no more, whereas if I had had more I had spent more as the rest did, so that I see it is an advantage to a man to carry little in his pocket. Home and after supper, and a little at my flute, I went to bed."

He went once or twice to the Bull-head in Cheapside, which was a famous house.

"Sept. 1, 1660.—Dined at the Bull-head upon the best venison pasty that ever I ate of in my life, and with one dish more it was the best dinner I ever was at. Here rose in discourse at table a dispute between Mr. Moore and Dr. Clerke, the former affirming that it was essential to a tragedy to have the argument of it true, which the Doctor denied, and left it to me to be judge, and the cause to be determined next Tuesday morning at the same place, upon the eating of the remains of the pasty, and the loser to pay 10s.

Sept. 4.—To the Bull-head, where we had the remains of our pasty, where I did give my verdict against Mr. Moore upon last Saturday's wager, where Dr. Fuller coming in do confirm me in my verdict. So home by water and sat up late setting my papers in order, and teaching my wife her musique lesson, in which I take great pleasure."

King-street, Westminster, was full of inns. Pepys's favourite haunt was the Leg, where an ordinary was held. On Dec. 6, 1660, he and Mr. Moore went there and "dined together on a neat's tongue and udder." Again on April 6, 1661, "with Mr. Creed and More to the Leg in the Palace to dinner which I gave them, and after dinner I saw the girle of the house, being very pretty, go into a chamber, and I went in after her and kissed her."

Two other King-street taverns were visited by Pepys in July and August, 1660.

"July 4.—To Westminster Hall, where meeting with Mons. l'Impertinent and W. Bowyer, I took them to the Sun Tavern, and gave them a lobster and some wine, and sat talking like a fool till 4 o'clock."

"Aug. 23.—To Westminster Hall, where I met with W. Symons, &c., and with them to the Dogg, where we ate a musk lemon."

The two last-mentioned houses of entertainment are both noted as haunts of Ben Jonson

* Diary and Correspondence of Samuel Pepys, esq., F.R.S., from his MS. Cypher in the Pepysian Library, with a Life and Notes by Richard Lord Braybrooke; deciphered, with additional Notes, by the Rev. Mynors Bright. Vol. I. London: Bickers & Son. 1875.

in Herrick's Address to the Shade of "glorious Ben,"—

"Ah, Ben!
Say how or when
Shall we, thy guests,
Meet at these lyric feasts
Made at the Sun,
The Dog, the Triple Tun;
Where we such clusters had
As made us nobly wild, not mad!
And yet such verse of thine
Outdid the meat, outdid the frolic wine."

Another Sun, that behind the Exchange, was a famous house; it was rebuilt after the fire by John Wadlow, the host of the Devil Tavern, and son of the more famous Simon Wadlow, whom Ben Jonson dubbed "Old Sym, the King of Skinkers." Pepys was there on March 1, 1659–60. He often went with his colleagues to the Dolphin, and drank "a great quantity of sack" there. On August 15, 1661, we read, "So home, and was overtaken by Sir W. Pen in his coach. So I followed him to the Dolphin, where Sir W. Batten was, and there we sat a while, and so home after we had made shift to fuddle Mr. Falconer, of Woolwich. On April 25, 1661, he "went to an ordinary at the King's Head, in Towre-street, and there had a dirty dinner." On June 21 of the same year,—"This morning, going to my father's, I met him, and so he and I went and drank our morning draft at the Samson, in Paul's Churchyard, and ate some gammon of bacon, &c., and then parted, having bought some green say for curtains in my parler."

On October 9, 1661, he went after the theatre "to the Fleece Taverne, in Covent Garden, where Luellin and Blurton, and my old friend Frank Bigge, was to meet me, and there staid till late very merry." This was the chief tavern in Covent Garden, but being the resort of bullies it obtained a very unenviable notoriety. The Green Dragon on Lambeth Hill, the Golden Lion near Charing Cross, the Old three Tuns at the same place, and the Pope's Head in Chancery-lane are among the other taverns mentioned by Pepys. The Rhenish Wine-house, in the Steelyard, Upper Thames-street, was a favourite resort, and is frequently mentioned by the old dramatists. Pepys went there sometimes, but the house referred to in the following extract was in Cannon-row:—"Sept. 3, 1661,—To Westminster Hall with Captain Ferrers, where we met with Mr. Pickering, and so all of us to the Rhenish Wine-house, where the master of the house is laying out some money in making a cellar with an arch in his yard, which is very convenient for him." On May 28, 1662, we read,—"Up and down in several places about business with Mr. Creed, home about noon, and by and by comes my father by appointment to dine with me, which we did very merrily, I desiring to make him as merry as I can while the poor man is in towne. After dinner comes my uncle Wight, and sat awhile, and thence we three to the Mum House at Leadenhall." Mum was ale brewed from wheat, a strong beer, said to have been introduced from Brunswick. There were several mum houses about the town, and the *Complaisant Companion*, 1674, contains the following joke relating to this drink:—"One seeing written on a coffee-house sign, 'Here's mum to be sold,' said it was a good rhyme. 'How can that be?' said the other. 'Why thus,' replied the former,—

'Here's mum to be
S, o, l, d.'"

From these extracts it will be seen how much wine was drunk at all hours of the day, and there is quite enough in the Diary to show that the heads of the clerks could not have been very clear after dinner, so that it was of little use for them to return to their offices for business. One day Pepys, being a little more sober than Sir W. Pen, has to lead the worthy knight home through the streets, and on another occasion he resolves not to drink any more wine,—a rash vow which he forthwith breaks. On March 3rd, 1659–60, he writes, "Tom Harper took me into a place in Drury-lane, where we drank a good deal of strong water, more than ever I did in my life at one time before." And on September 9th, 1661, "To the Privy Seale in the morning, but my Lord did not come, so I went with Captain Morrice at his desire, into the King's Privy Kitchen to Mr. Sayres, the master cooke, and there we had a good slice of beef or two to our breakfast, and from thence he took us into the wine-cellar, where, by my troth, we were very merry, and I drank so much wine that I was not fit for business, and therefore at noon I went and walked in Westminster Hall a while."

With one more quotation we must close this article:—

"June 28th, 1660, after my Lord was awake, I went up to him to the Nursery, where he do lie, and having talked with him a little I took leave, and carried my wife and Mrs. Pierce to Cloth-workers' Hall, to dinner, where Mr. Pierce, the Purser, met us. We were invited by Mr. Chaplin, the victualler. Our entertainment very good, a brave hall, good company, and very good musique. Where among other things I was pleased that I could find out a man by his voice whom I had never seen before, to be one that sang behind the curtain formerly at Sir W. Davenant's opera."

We have seen Pepys dividing his time pretty equally between the City and Westminster, and doing official work in both places. In Westminster Hall he was on friendly terms with all the shopkeepers who formerly kept their little stalls in that place, and most of the watermen at the different stairs, who recognised his genial face, were emulous of the honour of carrying him as a fare. The Diary relates to the doings of ten years of his early life, two and a half of which are given in the volume under notice. Much of his time was spent in gossip and pleasure-seeking, but Mr. Mynors Bright tells us that "it is impossible for any one who has not read the *entire* Diary fully to appreciate Pepys's industry and diligence in his office." We may therefore believe that as he grew older he became more staid and worthier of the esteem of his distinguished friend, John Evelyn.

THE NEW CASTELLANI COLLECTION.

Those of our readers who are interested in such a subject are probably already aware that Signor Castellani, from whom an extensive collection of specimens of antique ornamental art was purchased for the British Museum some few years since, has offered for purchase a second collection of somewhat similar kind, of equal value with the former collection, and even more varied in character. These are now on view in the severally appropriate rooms of the Museum; and those who have not had time or opportunity to inspect them personally may be glad to have a brief characterisation of the nature and value of the relics thus offered to the nation (which, however, are well worth a special visit); and the question as to their acquirement for this country is one of public importance.

The articles included in this second Castellani collection come under three divisions: works in sculpture; bronze utensils; and gold work and personal ornaments of various descriptions. The sculpture comprises three heads, one said to be that of Euripides, the other two evidently of Bacchus and Apollo, which are at present in the small ante-room where the statue of Demeter from Cnidus stands; and two nearly complete statues, placed in the room further on to the right, where the Æginetan sculptures are arranged. Of the heads, that of the Bacchus, which has considerable resemblance in type to that shown in a well-known torso of Bacchus, an adult but very youthful and half-feminine-looking head, is the best artistically; the Apollo, however, though considerably damaged, is of great interest as a specimen of a very marked though not very elevated ideal of the god, of which other examples of a similar type are known; it is, in fact, too sensuous in contour and (as far as we can judge in its present state) in expression to stand as a representation of the highest ideal of Apollo, but is remarkable nevertheless for the fulness and boldness of its contours, and the complete unity of expression and style in the whole workmanship, even the hair seeming to repeat and carry out the peculiar and somewhat exuberant character of the physiognomy. The two statues are of greater interest and value than any of the busts, and are as remarkable for their utter distinction—opposition we might say—in spirit and style as for the individuality of each. The one which is really, perhaps, the most valuable, partly because the most unique of the two, is believed to be of original Greek workmanship, and is a figure of a naked boy, rather under life-size, seated with the left foot held up, and partly resting on the right knee, apparently examining or removing something that has wounded the foot. The lower part of this foot has gone, the hands are imperfect, and the right leg below the knee is wanting; in nearly every other respect the work is in very good preservation. When we speak of it as a work of Greek sculpture, however, it must be understood that it is not of the severe, ideal, partly conventionalised type which we commonly associate with Greek art. It is a work of probably a much later date than the great style of Greek sculpture, and is as completely and markedly realistic as any work of modern sculpture could be. This, so far from detracting from its value, in one sense adds to it; for it is rarely that we have an example of such absolutely realistic study of form and action in antique sculpture; and, indeed, such a specimen as this may be said to have an important bearing on art-criticism and art-history, as proving that the excessive realism towards which modern sculpture has too much tended is, at any rate, not wholly a weakness of modern date. The important distinction is, however, that the modern realistic sculptor throws away his labour on detail not worth either the skill or the material,—on "the coats, the hosen, and the hats," the flounces and lace trimmings, of his figures. In the case of the work before us the sculptor's aim has been to realise in its minutest details the muscular action and contours of the human figure; and a minute examination of the statue shows its remarkable fidelity to nature, in the treatment of the bent body especially, the contours of the muscles of the back and the folds of the skin in front. The whole action and posture are frankly transcribed from nature; no attempt is made to carry off the somewhat awkward and, from some points of view, ungainly position: it is, in fact, we may say, the realistic portrait of a Greek *gamin* of 1,900 or 2,000 years ago.

Utterly opposed in every way is the statue,—Roman in execution almost certainly, whether Greek or not in conception,—to which we now turn. It is a large heavily-draped figure, with a head of considerable dignity, but comparatively formal, conventional, and expressionless; the features regular and somewhat mechanically executed, so far as they are seen; for the lower part of the face is concealed by a long and ample beard of half-conventional wavy locks; the hair of the head, also, executed in a similar style, descends on the shoulders on each side. The right arm and hand, which have been outstretched, are wanting, otherwise the figure is perfect, and the upper part, the face and head especially, is in extraordinary preservation, and seems almost as fresh and sharp as if but recently executed. From what we have said as to the head it will be seen that from the purely artist's point of view this work is not of so much value as the other; but it is a production of a higher and indeed of an imposing stamp, and we can pardon a somewhat stiffly-modelled and typical cast of head for the sake of the majestic presence of the whole figure, and the really grand line and arrangement of the draperies. The main lines of the drapery depend from the left shoulder and cross the body obliquely, the lower portion falling on the right leg in bold, simple, and massive folds; and an effective contrast is secured by the more vertical folds on the left side, and by the closer and more regular lines, cut into sharp lights and deep shadows, of the lower robe beneath. To appreciate the fine pose and composition of the figure, and the manner in which the drapery is folded over the right limbs, so as to express while concealing their action, the spectator should view it from a point rather on the left hand of the figure, so as to get about a quarter-face; from this point the pose and balance of the whole are remarkably fine. We hope we may pretty confidently predict that neither of these statues will be permitted to leave the building in which they are now placed.

Upstairs in the Bronze room, on a shelf in one of the cases on the left-hand (coming from the Mummy-room) is placed the second group of objects of the new collection.* The most prominent of these are round and oval boxes, averaging 10 in. to 12 in. in height, and rather less in width, and evidently connected with the toilet, inasmuch as mirrors, combs, &c., have been found in them. Some of these mirrors are also to be seen; oval metal plates with handles, very much the shape and size of a battledore, and ornamented on the back in a similar style with the sides and lids of the boxes. This ornament consists entirely of outline, including figure subjects, and borders and friezes of a con-

* We cannot but think that a collection offered for purchase as a whole and by the same owner, had better have been placed, collectively, in one room, so that its extent could be taken in at a glance. We observed, also, that there was no indication of any kind for visitors who had not previously acquired information, either as to the subjects of these relics of art, or the circumstances under which they are temporarily placed in the Museum.

ventional ornament, chiefly of the Greek honeysuckle type, but of somewhat unrefined and debased character. The articles are all of bronze, and the mode of executing the ornament might be described as resembling that called *niello* in silverwork, though producing the reverse effect; the metal being evidently incised, and the lines filled in with some material which shows a white line on the bronze ground. The execution of the figure subjects on these boxes is unequal; all of them show spirit and freedom of design, but in many the heads seem as if sketched in a somewhat mechanical manner by art-workmen who had got the trick of a certain type of face, founded on the style of the best Greek type, but exaggerated and debased; and in some of the female figures especially the curves of the limbs are much exaggerated, and give one the idea of being the work of an uneducated draughtsman; in others there is considerable beauty and refinement, and the resemblance of some of the best of these outline designs to the out-lined figures of Flaxman is curious; one or two of the figures on the lid of the long oval box might have come out of his illustrations to Homer or Hesiod.

Of the further portion of the new collection, in the Gold Ornament room, we cannot just now undertake to speak in detail; we must content ourselves for the present with observing that it is of great variety and beauty, comprising ancient Etruscan and Greek gold ornaments of the most artistic type in design and execution, in that refined and reticent style of ancient goldwork in which the very most was made of the precious material, artistically, in proportion to its bulk, in happy contradiction to the modern "bullion" style, which values gold ornament more by its mass than its design, if we may judge from the style of many articles that find a ready sale. Besides the gold ornaments, there is a large collection of rings, and a number of cameos and intaglios, many of the highest interest and beauty both in regard to design, material, and execution. Between the former and the present collection, in fact, whole days might be spent in this room without exhausting its wealth of beauty in design and detail, not to speak of the interest attaching to many of these in every sense precious relics, as records of a taste and feeling so far removed from our modern associations, and in some senses so entirely inimitable in the present day. Even the ancient literature that we possess does not bring us so directly face to face with the antique spirit as do some of these specimens of jewelry and ornament. Take one specimen alone—the pair of earrings twisted into a serpentine form, and ending in a small and delicate female head at each extremity, which every visitor to the room will be sure to remark: the whole library of Alexandria could hardly have given us more vivid evidence of the existence and character of "the antique" spirit in æsthetics than this little production; a thing which is absolutely of the ancient world, and which could under no circumstances have been originated by a modern workman; though this and many of the articles here might be invaluable in suggesting new ideas to modern art workmanship. When, as we hope, this new collection has been bought and arranged and classified along with the rest of the contents of the room, we may take an opportunity of dwelling on it more in detail. There can be no doubt the collection generally is well worth purchase for the nation on any tolerably reasonable terms, and we recommend those who would feel interest in its acquisition to go and judge for themselves.

A BALLOON WITH POWER.

On the 2nd of February, 1872, M. Dupuy de Lôme made a satisfactory ascent from Paris in a balloon constructed by him, and provided with a screw for propelling and steering it. The screw was then worked by manual power, and the rate of progress was comparatively slow. M. Dupuy de Lôme expressed at that time his belief that its speed might be increased if, instead of the weight of the eight men working the screw, an eight-horse-power engine were taken into the car. The only drawback to such a plan was the liability of the engine to set the balloon on fire. According to a communication in the *Jahresbericht des Physikalischen Vereins zu Frankfurt*, 1875, an important step in advance in this direction has now been taken. Herr Hänlein, civil engineer, of Mayence, has invented and constructed a balloon driven by a gas-engine. He has proved by his invention that, by increasing the size of the balloon and by other improvements, an increased rate of speed may be attained.

If we suppose a screw-steamer cut off just above the water-line, so that it moves only in one element, viz., water, that it finds its resistance in water, that the point of attack for its driving apparatus lies in it, and that its helm likewise acts there, this case is perfectly analogous to the movement of a balloon which may be driven and guided in the air. Of course, the driving apparatus of a balloon has to overcome a very much smaller amount of resistance than a vessel moving in water; but, in the same proportion, the resistance which a body propelled in the air meets with is less than when it is moved in water.

The impetus in boundless water or boundless air is calculated according to the formula:—

$$P = \varsigma \cdot \frac{v^2}{2g} \cdot F \cdot \gamma,$$

in which ς is a co-efficient depending upon the form of the body; v, the speed of the body; F, its greatest cross-section; γ, the density of the medium; g, the weight of the earth.

It will be seen from this formula that the impetus for congruent bodies, with equal velocity, depends solely upon the density of the medium in which they are immersed. The density of air being $\frac{1}{850}$ of that of water, the resistance a vessel propelled in air meets with, compared with that of another vessel propelled in water, is in the same proportion. In like manner, the pressure of the screw against air amounting to only $\frac{1}{850}$ of its pressure against water, and the resistance of the propelled body and the pressure of the screw being less, at the same rate, in air than in water, the final result, velocity, is the same.

Without (for the sake of simplicity of theoretical examination) taking account here of the coefficients modifying those relations, it may be said that the force necessary for moving a body in air is only $\frac{1}{850}$ of the force which must be applied to move a similar body with the same velocity in water.

A like relation exists also between the bearing capacity of the balloon and that of the ship. A ship, for instance, the volume of which under water amounts to 1,000 cubic mètres, has a bearing capacity of 1,000,000 kilomètres, while a balloon of the same dimensions, filled with hydrogen, is capable of carrying only 1,250 kilomètres, or $\frac{1}{850}$ of the capacity of a ship. The balloon motor absorbs in weight about the same percentage of the balloon's carrying capacity as the ship's engine does of the carrying power of the ships. Supposing a screw steamer and a balloon to have the same dimensions, the latter will require only $\frac{1}{850}$ of the power of the ship's engine in order to attain a speed equal to that of the ship. In this case, it is supposed that the effect of the air-screw is equal to that of a water-screw. But as it is not possible to make the sides of a balloon as smooth as the sides of a ship, the meshes of the netting causing small bulgings, though only on the upper surface of the balloon, and thus increasing resistance to its movement, its speed will be proportionately less.

Hitherto there has been a want of motor in the use of which the weight of the necessary mechanism stands in the same proportion to the carrying power of a balloon as, for instance, the weight of the boiler with contents and fuel to the carrying capacity of a steamship. Hänlein, in the first instance, obtained a patent (in 1865) for the combination of an air-screw and gas-engine for the locomotion of balloons, and included in this patent the application of a smaller balloon, filled with air, which, in the interior of the balloon proper, served the purpose of preserving the form as well as the volume of the latter. The smaller balloon acts in two ways. As soon as the balloon reaches the higher strata of the atmosphere, the gas with which it is filled expands, expelling a corresponding quantity of air from the inner, smaller balloon. In the case of the consumption of gas for the supply of the gas-engine, the inner balloon expands by taking in atmospheric air by the action of an air-pump.

In 1870, Hänlein constructed his first model, with a length of balloon of 38·94 ft. He was enabled to carry out his plans by the generosity of a few rich Frankfurters, who provided the necessary funds in the interest of science. The first experiments with the model were made in the following year at Mainz, and Hänlein's principle was found in practice not only perfectly sound, but it led to the conclusion that, with a balloon constructed on a larger scale, it would be possible, by means of a gas-engine of corresponding size, to attain a speed which would permit of overcoming, throughout the year, with few exceptions, the velocity of the wind. In 1872, Hänlein constructed a second, larger, balloon, capable of carrying, besides the necessary apparatus and outfit, two persons.

This balloon, of the form of a rotatory body, with a longitudinal section like the water-line of a ship, has a length of 166·32 ft., and a diameter of 30·36 ft. The covering of the balloon consists of closely-woven silk, having a thick layer of caoutchouc inside and a thinner one outside. The ten strips forming the balloon are joined perfectly gas-proof by means of strips 1·18 in. wide of a similar nature. The balloon is surrounded by a net, the meshes of which are 3·94 ft. square. Each mesh is connected from the terminal meshes of the sides with a cord 6·6 ft. long. Each twelve of such cords are united in a loop, and from each of these loops a stronger rope leads to the car. The back cords do not lead direct to the car, but unite at a strong cross-beam 15·84 ft. long, forming the space required for the play of the screw. All the ropes leading from the car to the net meet the balloon tangentially. To prevent the horizontal strain exerted by the front and back ropes upon the car, they are, running under the car, connected by other ropes diagonally with each other. Thus the whole weight of the car rests in a perfect network of ropes, the car being further suspended at a number of other points, thus reducing the strain upon the apparatus to a minimum. Between car and balloon, 18·15 ft. under the balloon axis, is a frame, of such a form that the ropes connecting the car with the balloon cross the frame tangentially, and thus may be fastened on to it. This frame carries the side-posts and stays supporting the steering-apparatus and cross-pieces for the transmission of the steering, and serves as a resting-point for four stays connected at their lower ends with the car. Two buffers, fastened underneath the car, protect the screw in case of the balloon touching the ground. All the supports, stays, &c., are made of very light soft wood, and are of the shape of fish-bellied bearers. They consist of four rods, which are held together by cross-pieces (crosses or rings) at intervals of 11·8 in.

Besides the usual inlet and escape valves for gas, the balloon is provided with two safety-valves, which open at a pressure sufficient to keep the balloon perfectly tight and extended. In the interior of the balloon is the smaller one, already mentioned, filled with air.

The gas-engine consists of two pairs of horizontal cylinders, acting upon a common crank-axle, by means of four cranks. Each two of them are opposite to each other, and form with the two others right angles. By this arrangement the pitching which would otherwise be caused by the forward and backward movements of the pistons is neutralised to a great extent. The screw is secured to the extremity of the crank-axle. The explosions are effected by the electrical spark of an induction apparatus. The engine is a Lenoir engine, its parts being made hollow, to reduce the weight of the whole. It makes ninety revolutions per minute. The diameter of the cylinders is 6·3 in.; that of the screw, 15 ft.; the pitch of the latter, 20 ft. The screw has four blades, and is in form like Griffiths' screw. The sides and ends of the cylinders are surrounded by cold water, to prevent them from being too highly heated. As but little water can, however, be carried, it is conducted from the cylinders in so-called coolers along the car. In these coolers the heated water comes into contact with the air passing through them. An aliquot part of it evaporates as the rising power of the balloon diminishes in consequence of the consumption of gas. The cooled water is brought back to the cylinders by two pumps, driven by the engine. The cooling surface is large enough to ensure an ample supply of cooling water, about 150 lb. being a sufficient store. The engine takes the gas it consumes direct from the larger balloon. In proportion as the consumption of gas goes on, the inner, smaller balloon must be extended by air.

The cubic space of the balloon, as measured by a meter, is 25,922 cubic feet. From this, the carrying power may be calculated as follows:—

	Lb.
If the balloon is filled with gas of 0·50 sp. gr., it is	3,128
If the balloon is filled with gas of 0·45 sp. gr., it is	3,440
If the balloon is filled with gas of 0·4) sp. gr., it is	3,756
If the balloon is filled with hydrogen gas, it is	5,838

The weights to be carried are:—

	Lb.
Gas engine	466
Screw	158
Frames, cross-bearers, steering apparatus, buffers, &c.	498
Cooling apparatus	220
Car	248
Covering of balloon	700
Net, with ropes	292
Battery, with inductor	80
Water	150
	2,812

Supposing the specific gravity of the gas to be 0·45, there would remain 628 lb. for two persons and their equipment.

At the experiments carried on at Brünn, the gas used was so heavy that the car had to be considerably lightened before it would carry two persons. On that account a regular ascent could not be made, and the balloon was secured by ropes, and propelled by the engine a distance of nearly 2,000 ft. It was found that the engine acted perfectly satisfactory; the balloon moved with the wind and against the wind, was propelled in a circle by means of the steering apparatus, and was perfectly manageable. In being propelled against the wind, a good rate of speed was attained. The engine consumed per hour from 70 to 75 cubic feet of gas, and from 20 to 25 lb. of cooling water.

It will thus be seen that, if all the parts are made still lighter, and lighter gas,—for instance, hydrogen gas,—is used, and the balloon is made of larger dimensions, a high rate of speed seems possible.

GENERAL EXHIBITION OF WATER-COLOURS.—DUDLEY GALLERY.

The collection does not show much work of the highest class; but there is a pretty large proportion of suggestive and interesting drawings. Mr. Poynter sends two works,—one a very finely executed study for a figure of Michelangelo, for the wall of the lecture-theatre at South Kensington, representing the great master, with rather a sad and worn expression on his rugged countenance, seated in a niche surrounded by an architectural framework in marble, the draperies, though in low tones of colour, assuming a decidedly warm tinge as a harmonising contrast with the cool tints of the marble. Opposite to this hangs the artist's other contribution, a landscape (455), very broadly washed in, and showing a fine power of broad delineation of the contours and perspective of a hilly scene. In general the works which occupy central places on the walls are hardly the best; we must look for these among scattered smaller contributions. Mr. J. C. Moore's portraits of children are good, and he has been at considerable trouble in securing striking and harmonious combinations of colour in the dress, &c., most successfully in "Maud" (296); in the triple portrait at the top of the room (202) the management of effect of this kind is overdone and too obtrusive, and the result is too much like a decorative painting. Among other figure subjects, Mr. Napier Henry's "Nautical Argument" (240) is carried on in the interior of a cabin with considerable spirit and character; and there is capital humour and broad powerful execution in Mr. A. Stocks' study of "Mural Decoration" (280) carried out by an urchin with a blacking-bottle: the drawing has somehow got unfortunately "cockled" in stretching. Mr. Luxmoore's "I will and bequeath" (271) is an excellent piece of manipulation, but wants point and subject; and Mr. Macallum's "Burning Kelp" (356), with the materials for an excellent picture, seems somehow not to realise the artist's aim; his "Carting Sea-weed" (93) has fine qualities, and more interest in the figures. Architectural subjects are pretty numerous; among them we notice Mr. F. Dillon's "Court-yard of an Arab House" (161), a most picturesque piece of external architecture, and the same artist's interior of the "House of Radnan Bey, Cairo (195), in which the jewelled effect of the stained glass is rather forcibly produced in opaque colour; Mr. Spiers's "Leon Cathedral" (388); Miss Wratislaw's careful and effective drawing of the "Gate of Paradise" at Sta. Prassede (130); and Signor Carelli's large and highly finished drawing of the interior of the Medici Chapel at Florence.

Among landscapes may be noted "A Homestead" (263), by Mr. Ernest Waterlow,—an orchard scene, with an evening sky behind, poetic in feeling, and far from commonplace in manner. Mr. Waterlow seems to be steadily progressing in artistic power. Mr. Ditchfield's "Summer Afternoon" (272), a delicately toned work, reminding us of the French landscape-painter, Sebillot; Mr. T. B. Hardy's "Waterloo Bridge" (178), with a heavily-laden hay-boat swinging in the tideway,—a capital little thing; "Driving Rain" (19), a clever work by Mr. Pocock; Mr. Glennie's fresh and broadly-treated sketch on "Keston Common" (181); Mr. E. Redgrave's "Felday Brick-kilns" (78), an unusual subject well treated; Mr. Wade's "Old Houses at Bassenthwaite" (231); Mr. F. Walton's "A Day of Sunshine" (295), a sketch with some individuality in idea and treatment; Mr. Jennings's "Old Place near Maidenhead" (431), and Mr. A. B. Donaldson's "The Moselle at Treves" (456), showing the characteristics of his very marked and original style, though not equal to some works of his we have seen. Mr. Heywood Hardy is zoological as usual, this time in the way of "Fishers of the Nile" (126), which in the vulgar tongue are called pelicans; and in our mention of architectural subjects we should have included the ruined "Hospitium at Waverley Abbey" (432), by Mr. J. H. Leonard, and Mr. C. Earle's "Under the Umbrellas, Verona" (69); the latter a rather brilliant and unusual study.

Some of the best things in the room are among the smaller drawings on the two screens. We may mention the "Fisherman's Cottage, Zuyder Zee" (561) by Mr. G. Clausen, who also sends a good little work illustrating the same part of the world, "Coming out of Church" (328); Mr. A. Goodwin's study of a green and weedy "Mill-stream" (562); Mr. Skill's little sketch of Rotten-row, under the title of "London—West" (572); Mr. F. G. Cotman's "Little Primrose Gatherer" (500), a charming bit of colour, though the aërial perspective of the landscape is somewhat puzzling; and Mr. Walter Crane's two drawings, "Whitby," and "Whitby Abbey" (468, 498), of which the latter, with the Abbey standing solemnly up in the middle of the scene, brown and massy, against an evening sky, is a very fine little drawing indeed, wherein the artist has perfectly realised his intention.

Without presenting much that is remarkable, the present exhibition strikes us as exhibiting a good many examples of originality in the choice and treatment of subjects, which renders it not an uninteresting one.

THE FIRST HOUSE OF THE ROYAL ACADEMY OF ARTS.

Taking up our gossip from where we broke off,* two other of the original R.A.s come to our fancy—John Baptist Cipriani and his dear friend and fellow countryman, Bartolozzi, the engraver. We see them always together, sharing the same thoughts and feelings, and pursuing their beloved studies with kindred perceptions, aspirations, and capacities. Angelo describes them as twin-like, and speaks of the delightful evenings of several years when his own family with these famous artists and the two distinguished musical composers, Bach and Abel, "formed a little friendly party, and amused themselves with drawing, music, and conversation, until long after midnight. Cipriani used to make sketches of heads, and groups of figures, to which Bartolozzi would with red, black, and white chalks add the effect."

Thus recalled to being in our fancy these old pictures come and fade as they came and went in life on the screen of Time.

Another slide in the magic lantern of dead men's memories shows us a great popular hero of his day, whose head still figures on public-house signs, the Marquis of Granby, sitting to Francis Hayman—familiarly known as Frank—the Royal Academy's first librarian, for a still existing portrait. The Marquis had in his younger days been a skilful boxer, and so too had Hayman, who was moreover an athletic man.

"So, friend Hayman," says the Marquis, "I understand you are an adept with the gloves."

"Once, my Lord, but the day has gone by."

"I' faith," replies his lordship, "so it was with me. Come, I see your gloves there in the corner, let us have a set to."

"I am gouty," says Frank. (By-the-bye, he died of gout in 1776.)

"So am I. We are about the same age and a fair match."

"But I shall not be in a condition to paint."

"Pho! pho! You will paint quite as well, and I shall look all the better for the exercise."

Mrs. Hayman, sitting in another room, was startled by suddenly hearing a succession of strange sounds, noises of rapid beating and heavy thumping, sudden jars with every now and then a terrible shaking of the entire house. These mysterious and alarming noises becoming more violent, and the thumpings louder and quicker, she started up and burst into the studio, where, to her astonishment, she saw her gouty husband and his illustrious gouty sitter, "knocking each other's heads about like two coal-heavers."

"Hayman," says Walpole, "was a rough man with good natural parts, and we still stumble over prints of his designing in old collections. His paintings at Vauxhall—very often falsely described as Hogarth's—were, in his day, much admired. He was chairman of the committee appointed for preparing the R.A.s' charter and organising its general plan."

But chief and foremost amongst the artists to whom we owe the R.A. stands George Michael Moser, the chaser, affectionately known in his latter days as "Old Moser," who dwelt in Craven-buildings, Drury-lane, near where Sir Peter Lely had dwelt before him, and close by the former lodgings of Mistress Nellie Gwynn when she resided in a house which is still standing, and which she knew as "The Cock and Pye." He became keeper at the Royal Academy in its first house (that of our little sketch*), where Roubiliac's first studio had previously been.† In Zoffany's famous picture,—that already alluded to as republished in the *Graphic*,—we see Moser giving the nude male model of the evening the handle of a rope suspended from the ceiling of the painting-room to sustain his arm in the right position. The artists of this academy were at first their own models, and took it in turns to pose upon the raised platform, remaining motionless for the space of one hour on each occasion. His daughter, Mary Moser, afterwards Mrs. Lloyd—her portrait hangs to the right over her father's head in Zoffany's painting of the year 1764—was also one of the original R.A.s. Moser, shortly after the death of Sir James Thornhill, in 1734, opened a private academy in the house of a painter named Peter Hyde, in Greyhound-court, Arundel-street, Strand, for a little coterie of artist friends, chiefly foreigners. They met regularly to study from the life on certain evenings of the week, and at these meetings the project of a Royal Academy of the Fine Arts, according to Angelo and others, was first conceived, and some years after, when they met in St. Martin's-lane, and were more numerous, matured. The preliminary business was, however, transacted at their favourite evening place of resort, the Turk's Head, in Soho.

Sir James Thornhill had, however, suggested a similar design in the reign of George I., and strove to give effect to it through Lord Halifax, but this attempt was a failure. He not only conceived its plan, but estimated the cost of its execution. Afterwards, other efforts were made, and there are in the British Museum copies of pamphlets issued from time to time by artists advocating the same idea. In October, 1753, a printed circular appeared from the St. Martin's-lane Academy, detailing a project "for erecting a public academy for the improvement of the arts of painting, sculpture, and architecture," and inviting all interested therein to meet at the Turk's Head aforesaid on the thirteenth of the next month, "at five in the evening precisely, to proceed to the election of thirteen painters, three sculptors, one chaser, two engravers, and two architects,—in all twenty-four." This was signed by Francis Milner Newton, as secretary; by Francis Hayman, as chairman; by George Michael Moser, the chaser (a Swiss); Roubiliac, the sculptor; Hudson, the portrait-painter; George Lambert, the scene-painter,—he who founded that famous Beef-steak Club which lived so long, and is on the point of being revived; by Samuel Scott, famous as a marine-painter, and for his views of Old London; by Robert Strange, the engraver, who was afterwards knighted, despite the known fact

* See p. 98, *ante*.

* See p. 98, *ante*.

† Hogarth strongly objected to this establishment, although he presented to it several casts and other useful articles which had belonged to the Academy of his late father-in-law, in Covent-garden. He declared that it was the surest way of bringing artists to beggary by rendering their education so easy as one guinea and a half and two guineas per quarter, since it would induce hundreds of foolish parents to send their boys to keep them out of the streets, whether they had talent or not. And there was some reason in this, for at that time ordinary schools were very scarce.

of his having fought for the Pretender. By-the-bye, there is an interesting story told of this well-known old artist, and we may here digress to briefly relate it.

When the rebels of 1745 were put to flight by Duke William, he was a soldier in the ranks of the defeated, and flying for his life, rushed through a door which chanced to be open, closed it, and, breathing heavily, made his way into a room where a young lady was seated, wearing one of those immense hoops then in fashion, singing and working. Hearing his pursuers approaching he implored her to conceal him, and, touched with pity, she bade him get under her hoop. Strange had been seen to enter the house. Scarcely was he covered when his pursuers, bursting into the room, saw only his protectress quietly singing and working as before, and, apologising, they retired. When the search was over, the lady,—a most amiable woman, who was afterwards the fugitive's wife,—helped him to retire in safety.

To continue our list of the committee. Next comes John Shackleton, one of the three names to which esquire is appended; William Hoare, Charles Grignion, John Ellys, esq., and Isaac Ware, the architect, of whom Mr. J. T. Smith tells so interesting a story that we venture to digress once more in telling it.

A thin, sickly, little boy, a chimney-sweeper, was amusing himself one morning by drawing, with a piece of chalk, the street front of Whitehall upon the basement stones of the building itself, carrying his delineations as high as his little arms could possibly reach. It happened that his operations caught the eye of a gentleman of considerable taste and fortune as he was riding by. He checked the carriage to watch the boy's doings, and after a few minutes called the boy to him, asking where he lived. A look of terror sprang into the eyes gleaming out of that little black face, and with tears streaming from them he begged that he would not tell his master of what he had been doing, and he would soon rub it all out. "Don't be alarmed," said the gentleman, as he threw him a shilling. The carriage was at once driven to the boy's master, who lived in Charles-court, in the Strand. He gave the poor little boy a good character, but complained of his propensity for "chalking," pointing out where his own walls were disfigured by the lad's chalk drawings of the famous porch of St. Martin's Church, a subject which figured thereon repeatedly. This gentleman purchased the boy's indentures, took him away, gave him an excellent education, and sent him to study at Rome. Smith says his father heard Ware tell this story of himself as he was sitting to Roubiliac for his bust, when he had grown prosperous by the practice of his art, and had not only a town residence in Bloomsbury-square, where the father of our present Prime Minister afterwards resided, but a country-house in Bayswater. We could, if it were not out of place here, point to a gentleman now living in Leeds, a famous dealer in and lover of pictures, who is accumulating a collection of which the world will some day gladly hear, and who some months since gave us touching glimpses of his early life as a chimney-sweeper in that most ancient and flourishing of English manufacturing towns.

Next on our list aforesaid comes Richard Dalton,—familiarly "Old Richard,"—he who was commissioned to bring Luccarelli, the king's favourite landscape-painter, to this country. He was a kindly-hearted, good sort of man, who has been evil treated since his death in connexion with the rise of the Royal Academy. He was one of "Gruff Dick's" (Richard Wilson's) best friends, and strove in vain to make King George believe in his friend's now famous pictures. He was the keeper of the king's gallery, and on one occasion said:—

"May it please your Majesty, might not a picture of Mr. Wilson's fill that space?" The king was, it may be remembered, induced to assent, and when the picture was finished, the king, hearing its price,—100 guineas,—denounced it as a daub, and expressed intense astonishment at such an exorbitant price being demanded for it. When a few days after Wilson called on Dalton,—being as usual most sorely in need of money,—the following conversation ensued:—

"Dalton.—Why—a—with regard to the picture;—as for my own opinion,—you know,—Mr. Wilson,—that—indeed.

Wilson.—Damme,—his Majesty doesn't approve. Speak out, man; I know your friendly zeal.

Dalton.—Why,—in truth, my dear friend, I venture to think the finishing—is—is—well—not altogether—altogether answerable to his Majesty's anticipations.

Wilson.—Humph! Not every leaf made out, hey? Not every blade of grass! What else?—out with it man.

Dalton.—Why, then, his Majesty thinks—that the price—is—is a—is a great deal of money.

Wilson (seizing Dalton by the button-hole, bending forward, and whispering).—Tell his Majesty I don't want to distress him. I will take it out in instalments of a guinea a week."

Peter Pindar, Dr. Wolcott, who received lessons in painting from Wilson, is the authority for this story. Again resuming our list, we pass on to James Payne; Joshua Reynolds, who, if we are not mistaken, was then living in St. Martin's-lane, where Sir James Thornhill had previously lived, and where Van Nost, the sculptor, cast from the life his famous mask of Garrick's face, and where, at another time, Hayman lived; Samuel Wale,—several of his views figure in Cassell's "Old and New London"; John Gwyn, the architect; John Pine, the portrait-painter; Gavin Hamilton; Thomas Sandby, architect; Richard Yeo; Thomas Carter, and John Astley. An amusing volume might be filled with the stories and anecdotes extant of these old artists and others associated with them; but we must glean no more from the sources where they abound, but hurry to a close.

In the year 1734 a society of art-lovers, called "the Dilettanti," was established. It consisted, not of artists, but of men of wealth and position, who had travelled in Italy, and its assumed purpose was a mere pretext for social enjoyment and the gratification of a desire of ranking high in the fashionable world as men of taste. To this Society, as one having funds at its command, the artists' appeal was specially directed, and most unfortunately, as they soon found out. The Dilettanti Society responded to the appeal. Its members came to the Duke's Head meeting, and we have reason to infer that an air of condescending patronage proved as offensive on the one side, as the air of sturdy independence and the pride of professional superiority were on the other, although Strange tells us that the artists formed the majority of those who were most to blame for the division which ensued. He says of them, "I was sorry to remark motives apparently limited to their own views and ambition to govern." The Society withdrew. The public only sneered at or ignored the appeal, and the project was perforce abandoned. In 1760 the first fine-art exhibition was held by this Society, in the room of the Society of Arts, where its great success* had much to do with the fact that in 1765 the same body of artists were more successful. They then obtained a charter, and formed a body corporate as "The Society of Artists of Great Britain," its crest and arms were chosen, and St. Luke's Day was appointed for the annual election of officers. F. M. Newton was secretary; Richard Dalton, treasurer; Lambert, the scene-painter, of whom we have already spoken, was the first president; Francis Hayman, the second; and the father of the once celebrated Mrs. Trimmer, Joshua Kirby, was the third. The latter had been long employed as a coach and house painter at Ipswich, and made his reputation by a work called "The Perspective of Architecture," &c., which was dedicated by permission to the king, to whom he had given lessons in architectural drawing, and by whom he was appointed keeper of the Kew Gardens. He won the personal esteem of the artists of his day, as well as his monarch's. Gainsborough was his most intimate friend, and had been from boyhood, when they studied together from nature, near Sudbury: he believed him to be the greatest genius of the age, and in return Gainsborough called him "Old pudging Josh,"—saying of his selection and execution in landscape paintings, "His lines are all straight, and his ideas all crooked, by Jove!" His treatise on perspective will long be memorable in connexion with the singularly eccentric and extraordinary frontispiece which was drawn for it by Hogarth.

While Kirby was president, the Society's fund having grown by successful exhibitions to a considerable sum, another powerful effort was made by a large number of the fellows to establish a Public Royal Academy therewith, but the twenty-four artists who had been elected directors or officers in that year opposing their desire, the effort was abortive. After many struggles, however, on the 3rd of March, 1767, a considerable majority of the members resolved "That it be referred to the directors to consider of a proper form for instituting a Public Academy, and to lay the same before the meeting in September next." But the directors were obstinate. Chambers and Paine, the architects, had resolved that the funds should be appropriated to the erection of a building for the Society. A petition was drawn up, and in March, 1768, presented to his Majesty, beseeching him to grant them a piece of ground adjacent to the Royal Mews, whereon the Society might build. This was signed by seventy officers and more than eighty fellows. Dalton had a scheme of his own to serve. Some premises which he had taken for a "print warehouse" were on his hands, useless; he thought the Academy could occupy the same, and lessen his loss from the somewhat heavy failure in business. In 1767 Mr. Moser announced the intention of the king to take the arts under his protection. Loud cheers followed, and unity seemed to be once more restored. Mr. Moser also announced that the first step consequent upon this would be the removal of the Society from Peter's-court, St. Martin's-lane (see sketch) to Dalton's premises in Pall Mall. The words "Print Warehouse" were erased from over the door, and "Royal Academy" put in their place, when it was discovered that instead of a free school all students would have to pay one guinea per year for its support. Fresh dissensions and new strife arose, and the party struggle grew so fierce that the Society's destruction was looked for. Law was appealed to, but the officers defied both the legal opinion and that of the fellows they represented, declining to adopt any modification of the Society's method of electing officers which might exclude them from power. But the Society at the next election, on the 18th of October—St. Luke's Day—left sixteen of the officers non-elected, and so broke up the obnoxious party in its government. On the 10th of November the eight old directors who had been elected resigned. Amongst these were West, William Chambers, Moser, Sandby, and Newton. The story of how these seceders re-established the Society under its new name of the Royal Academy has been a fruitful source of misrepresentation and controversy from that time until the present. Sir Robert Strange, in a pamphlet on the subject, says,—"The dissensions in the Society of Artists having reached its height, and the remnant of the old directors, whose attempts to obtain an arbitrary and responsible power had occasioned the dissension, having, by a vigorous effort on the part of the general body of members, become a minority, now with the help of Mr. Dalton" (between whom and Strange, it must be remembered, there was private enmity), "betook themselves to the king, and proposed an enlargement of the plan of the Royal Academy, so that it might only serve their views of triumph over the society from which they had seceded." Chambers, West (to whom the king first intimated his willingness to support the seceders), Cotes, and Moser, were the real authors of the new project to which Strange alludes, as Northcote tells us in his "Life of Reynolds." Reynolds joined them with reluctance after they had completed their plan, and only after much earnest and persevering solicitation, and after he consulted his friends Dr. Johnson and Sir Edmund Burke, whose advice he followed. Both parties felt certain of the royal support; Kirby had assured the members from his chair of office that his Majesty George III. would patronise them and their exhibition. The bulk of those who supported Sir William Chambers's party were foreigners, and on the 10th of December, 1768, their plan received the royal assent, and was duly signed by those who formed the thirty-six original Royal Academicians, to whom, making forty, were afterwards added Edward Burch, Richard Cosway, Joseph Nollekins, and James Barry. Their first meeting was held on the 14th of December. In Galt's "Life of West," we are told how Kirby, anxious that West should exhibit his picture of "Regulus," the latter promised to do so with the king's permission, when the king, to whom the picture belonged, and who was present, said "Assuredly I shall be happy to let the work be shown to the public." "Then, Mr. West," said Kirby, "you will send it to my exhibition," meaning that of the Incorporated Society.

* We have not the requisite space at command, or it would be interesting to show how important was the influence of this exhibition, and those which succeeded it in Spring-gardens, in creating a feeling of interest in art amongst the general public, and raising the funds which were needed. In 1763 the sum raised was 500*l.* At first the money was applied to charitable purposes, afterwards to the establishment and support of the Society in connexion with the projected Royal Academy.

"No," interrupted the king firmly, "it must go to my exhibition—to the Royal Academy."

The affair had been kept secret, at the king's request, on political grounds. This was the first intimation Kirby received of the Chambers party's triumph, and Galt says "his colour forsook him, his countenance became yellow with mortification, he bowed with profound humility, and instantly retired, nor did he long survive the shock."

The old Society was at an end, and the new one reigned in their place in St. Martin's-lane. Many of the old members lost even the valuable statues and busts, &c., which they had placed in the painting hall. Strange headed the so suddenly and unexpectedly defeated party, and they petitioned the king for redress, and the king promised to give no more encouragement to one than he did to the other side, but did not keep his word. The old society lived apart in new premises, dwindling and fading for want of royal favour and fashionable support until 1807, when the Incorporated Society of British Artists was no more. In 1836, when Martin Archer Shee was P.R.A., the last living member of the old body, Mr. Polard, aged eighty-one, being poor and in great difficulties, was induced to surrender the old Society's charter, &c., to the new one, and in 1838 he died.

These were some of the men and their chief doings, with which the old walls of the Royal Academy's first house were familiar. Were our paper not already much too long, there are other stories to be told of those who studied there as boys whose names are now brightest on the scroll of England's most famous artists. On the site of the house was afterwards erected a Quakers' meeting-house, and a Quaker's son, West, had here reigned as president of those arts which our old-fashioned Quakers held in contempt as frivolous, or in detestation as vicious. Thus time worked and still works curious and pregnant changes.

THE NEW NATURAL HISTORY MUSEUM, SOUTH KENSINGTON.

VISIT OF THE ARCHITECTURAL ASSOCIATION.

The first of the Saturday afternoon visits of the Architectural Association for the present session to buildings in progress was made on the 29th ult., when the new Natural History Museum at South Kensington was inspected, so far as the dense fog prevailing at the time would permit. The visit was originally arranged for a fortnight earlier, but was postponed on account of the inclemency of the weather; and could the fog of Saturday last have been foreseen, another postponement would certainly have been made. Notwithstanding the inauspicious state of the atmosphere, the members of the Association mustered from eighty to one hundred strong, and Mr. Waterhouse, the architect, having kindly arranged to be present and conduct the members over the works, the most was made of the occasion. The building, as will be known to many of our readers, will exemplify the use of terra-cotta as an architectural and constructive material to an extent not yet carried out in any other modern English building, the whole of the *façade* and of the walls and architectural members of the interior being entirely of terra-cotta, with the exception that some if not all of the columns of the interior will carry the weight they are destined to bear by means of iron stanchions, which will be surrounded by terra-cotta. The style adopted is Romanesque, which Mr. Waterhouse explained is better adapted to the exigencies of the material than Italian or any other style. The Museum, of which a view has already been given in the *Builder*, will present one very notable feature of arrangement, viz., the "Index Museum," which will be the largest apartment in the building, and approached directly from the principal entrance in the centre. This "Index Museum" will, as its name imports, serve as a general key or guide to the whole contents of the Museum, and will form, together with the British Natural History Museum in its rear, the really popular part of the collections. The building will be unique as to its ornamentation, which will be entirely based on the extinct and living species of birds, beasts, fishes, reptiles, and insects, of which examples will be exhibited in the museum. Of course these present an endless variety, and the manner in which the different specimens have been modelled by Mr. Dujardin (of Messrs. Farmer & Brindley's) has met with the unqualified approval of the architect. The extinct specimens have been modelled from fossils now in the British Museum. The floors will be of fire-proof construction, but boarded over instead of tiled, as curators find it exceedingly unpleasant to be constantly on a tile floor. The whole of the ironwork used in the building comes from Belgium,—a fact well worth pondering over by British workmen. The stairs will be of stone; Mr. Waterhouse would have liked them in terra-cotta, but did not think it was possible to get the requisite truth of line in that material. It is not intended to light the whole of the building with gas, on account of the extreme danger which would arise, owing to the fact that the fish are preserved in spirit. In case of fire the stoppers of the jars would fly out, and the burning spirit would be all over the place, carrying destruction wherever it went. It is contemplated, however, to close all portions of the Museum in the evening except the "Index Museum" and the British Natural History Museum, which will be, as before stated, the really popular portions of the building, and these it is proposed to light with gas. The heating of the building will be effected by boilers placed below the British Natural History Museum. The foul air was originally intended to be carried off by the two towers, which were cut down by Mr. Ayrton, and which, though not included in the present contract, the architect hopes will be built in their integrity. If the towers are not built, some modification in the scheme of ventilation will have to be devised. The whole of the basement fronting the Cromwell-road will be occupied by workshops, the rear portions of the basement being devoted to store and lumber rooms. In concluding his remarks in elucidation of the plans, Mr. Waterhouse, quoting the motto "Honour to whom honour is due," said he had been most ably assisted by his old pupils, Messrs. Cooper and Isaac Steane, by Mr. Farquharson (clerk of works), and by Mr. Dujardin, who, as before stated, has modelled all the ornament. A word or two on what, though a trifling incident of Saturday afternoon's visit, might have been a very serious matter. It is always a sufficiently dangerous task to conduct a large party of visitors along the scaffolding of a building in course of construction, and it is therefore desirable that all extraneous sources of danger should be stopped while such a visit is in progress. While the party was proceeding along one of the scaffolds at the Museum on Saturday last, some men who were at work on a scaffold above dropped two or three bricks, which fell within 18 in. or 2 ft. of several of the visitors, shattering one of the terra-cotta blocks. The men were of course ordered to stop working, but not until what might have been a fatal accident had occurred. In future visits it will be well if somebody in authority will think of the old adage anent the futility of locking the stable-door after the steed has been stolen.

MEETING OF THE INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting of this Institute, held on Monday evening last, January 31, the president, Sir G. G. Scott, R.A., in the chair, the following members were elected, viz., Mr. J. B. Badock, of Staple Inn, as Fellow; and Mr. C. R. Pink, of Winchester, and Mr. J. B. D. Wall, of Stamford-hill, as Associates. Several donations to the library were announced.

Mr. C. L. Eastlake, secretary, then read a letter with reference to architectural drawings for

THE PHILADELPHIA INTERNATIONAL EXHIBITION,

which said,—

"The Executive Commissioners for the Philadelphia Exhibition have reserved, in the section of the Fine Art Gallery allotted to Great Britain, appropriate space for the exhibition of architectural designs, and they indulge the hope that the Council of the Royal Institute of British Architects will co-operate with them, in this direction, in order to secure a worthy representation of the architectural art of this country at the approaching Exhibition.

So many important buildings have been erected in London of late years, distinct in character from anything which exists in America, that it seems specially desirable that the space allotted to British architectural designs should be well and adequately filled.

It is desired that such office drawings and elevations as those ordinarily sent to the Royal Academy may be contributed on this occasion, and I am directed by the Lord President of the Council to state that the designs confided to the Executive Commissioners by any members of the Institute will be sent to and from Philadelphia at the cost of the Commission.

His Grace trusts that the Council of your Institute will take such steps as may seem to them expedient, to make the proposals contained in this letter known to architects, and that the Council will generally advise the Executive Commissioners in what manner an adequate representation of architectural designs may be best attained.

F. R. Sandford, Executive Commissioner."

All architectural drawings intended for the Exhibition should be addressed to Mr. Thompson, at the South Kensington Museum, during the first week in March. The drawings will be conveyed to Philadelphia under the care of Mr. Joseph Jopling, the fine-art superintendent (British Section), who will see that they are carefully returned to their owners at the close of the Exhibition.

An Insult Resented.

Mr. C. F. Hayward said he had just seen on the library table of the Institute several advertising pamphlets or circulars with reference to an invention which he particularised (but which shall here be nameless). Between the pages of each of the pamphlets was a little slip of paper, stating that "25 per cent. commission" was "allowed to architects." He asked for some explanation as to how the circulars got upon the table.

Mr. Eastlake said they were sent to him by the tradesman or patentee "for distribution." Of course he never thought of distributing them, but, instead, placed them on the table, which was the course customarily pursued. He was quite unaware that they contained the insulting offer referred to by Mr. Hayward, or they would have been consigned to his waste-paper basket.

The President thought the best thing to do was to transfer the papers to the fire, and inform the sender that it had been done, and wherefore.

Mr. C. Fowler hoped the matter would not be allowed to drop in that way. The offer made on the circulars in question was a most gross imputation on the honour of the profession,—so gross that it ought to be formally repudiated by the Council on behalf of the Institute. He suggested that the Council should pass a formal resolution on the subject, and should give the utmost publicity to the views of the Institute on the matter.

Mr. B. Ferrey fully concurred with what had fallen from Mr. Fowler, and thought it was high time that some notice should be taken of such insulting offers as that referred to by Mr. Hayward. The profession had, as a body, remained uncontaminated by such offers, but its members were continually being taunted with receiving commission from tradesmen.

The President thought that it was perhaps hardly necessary to take any special steps for the repudiation of such offers, as it would be investing them with too much importance.

Mr. Arthur Cates thought that if any notice were taken of the matter, it should be definitely stated and given forth that one of the principal conditions of membership in the Institute was that each member was bound in honour not to receive commission on account of goods supplied by tradesmen, and that any member receiving such commission would be expelled the ranks of the Institute. If such offers were allowed to be sown broadcast without protest, it would naturally enough be thought that they met with the wished-for response.

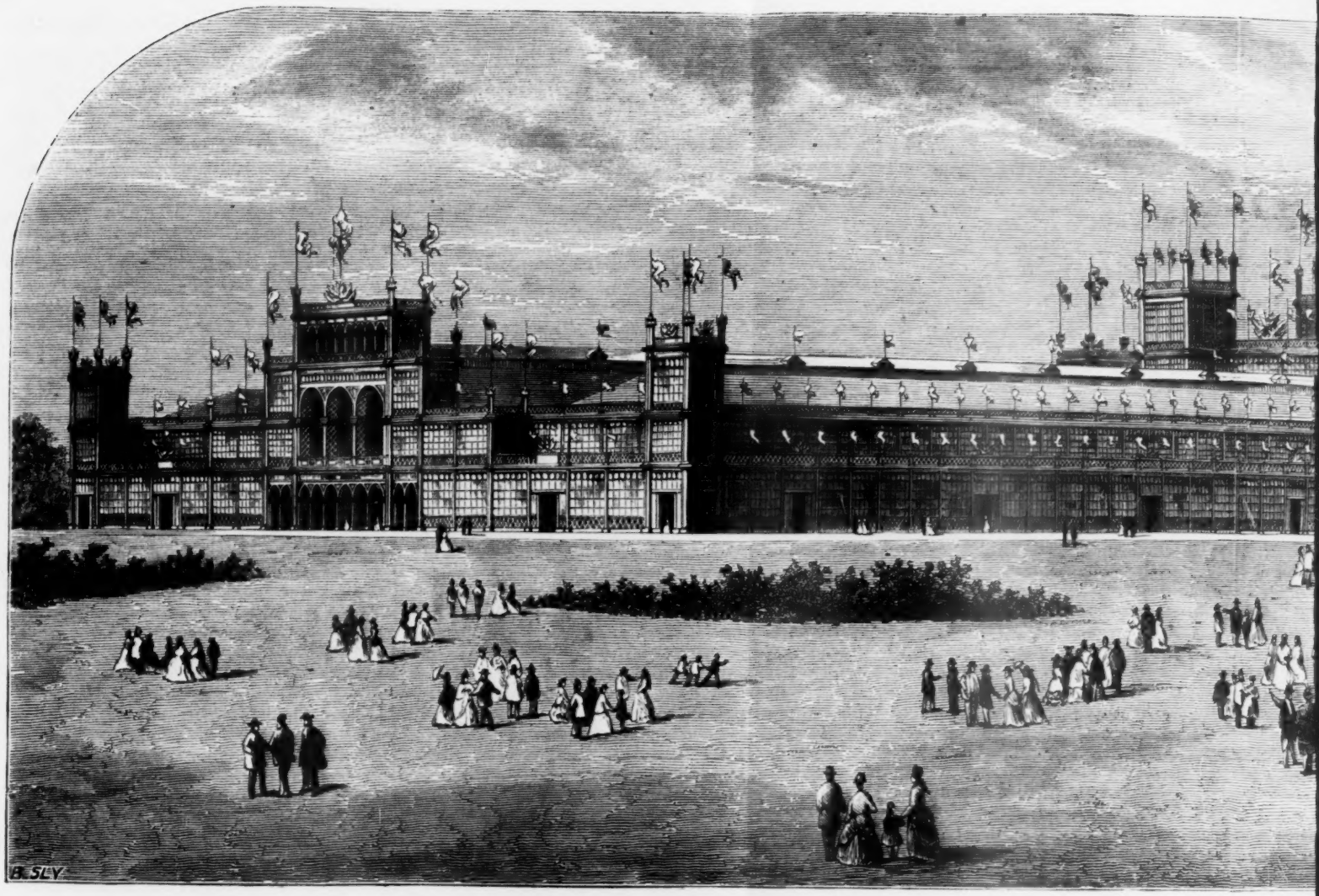
The President thought it would be best to burn the papers, as he had suggested, and for the members to strike the offending tradesman or patentee off their lists, and not employ a man who offered such a gratuitous insult to the profession.

The matter then dropped, and the Rev. Mackenzie E. C. Walcott, B.D., read an extremely long but interesting archæological paper on "Old Cleeve Abbey." An abstract of the paper, with a brief report of the discussion which ensued, will be found on another page.

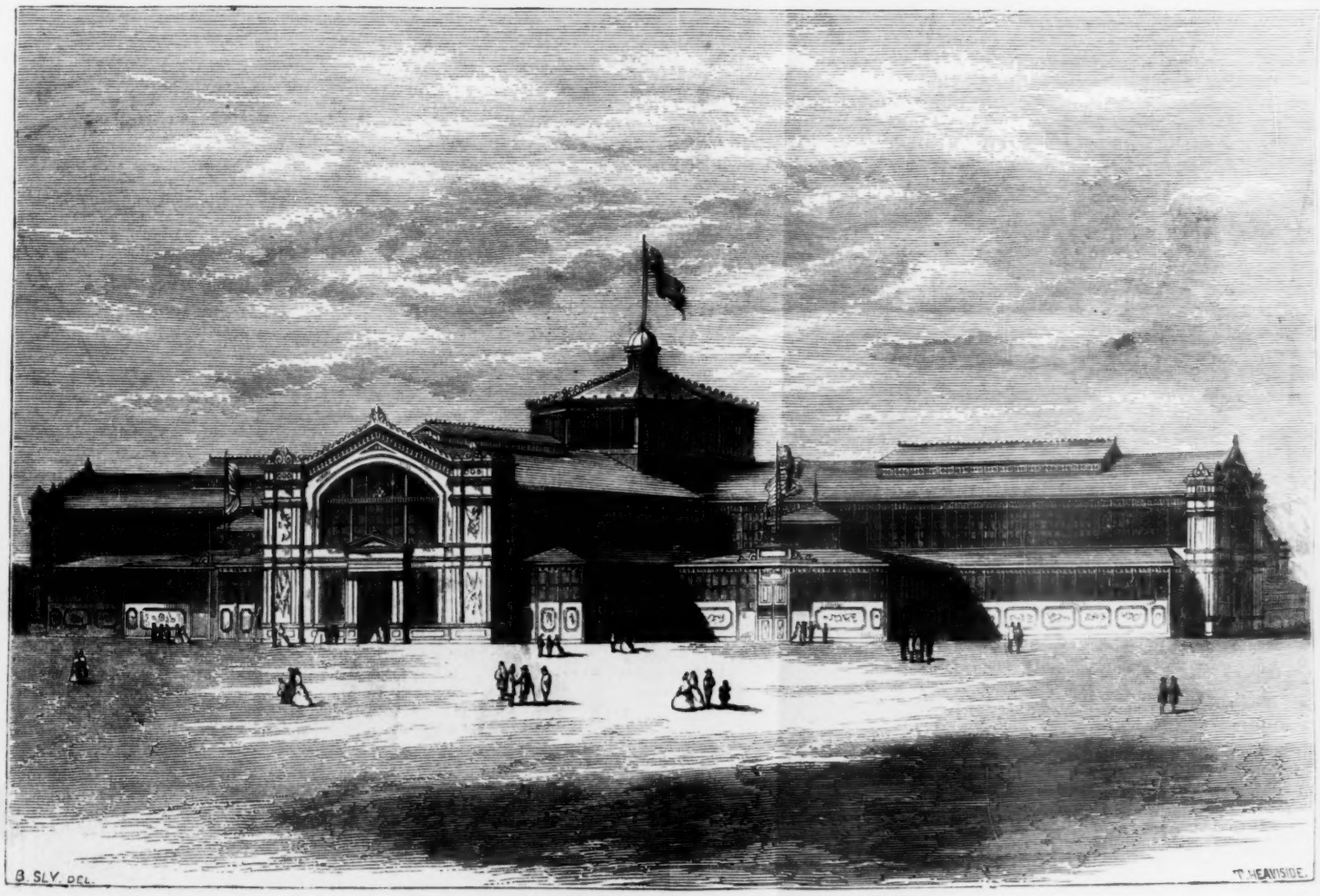
The next ordinary general meeting will be held on Monday evening, February 14th, when a paper, "On the Erechtheum at Athens," is announced to be read by Mr. J. Fergusson, D.C.L., F.R.S.*

The Ordnance Survey of Scotland.—At the last meeting of the Highland and Agricultural Society, the secretary read a report on this subject, stating that a deputation from the Society waited on the First Commissioner of Works to ask a grant to complete the unfinished survey of Scotland, and that a communication had since been received to the effect that in face of pressing demands from all parts of the kingdom, the First Commissioner deemed it impracticable to comply with the request.

* An adjourned special general meeting to consider the report of the special committee on the affairs of the Institute will be held on Monday evening next, the 7th inst., at *seven* o'clock, "for the purpose of considering the amendments and motions already before the meeting, and such others as may be brought forward for consideration."



INTERNATIONAL EXHIBITION, PHILADELPHIA, 1876.——THE MAIN EXHIBITION



United States Government Building.—Mr. James H. Windrim, Architect.

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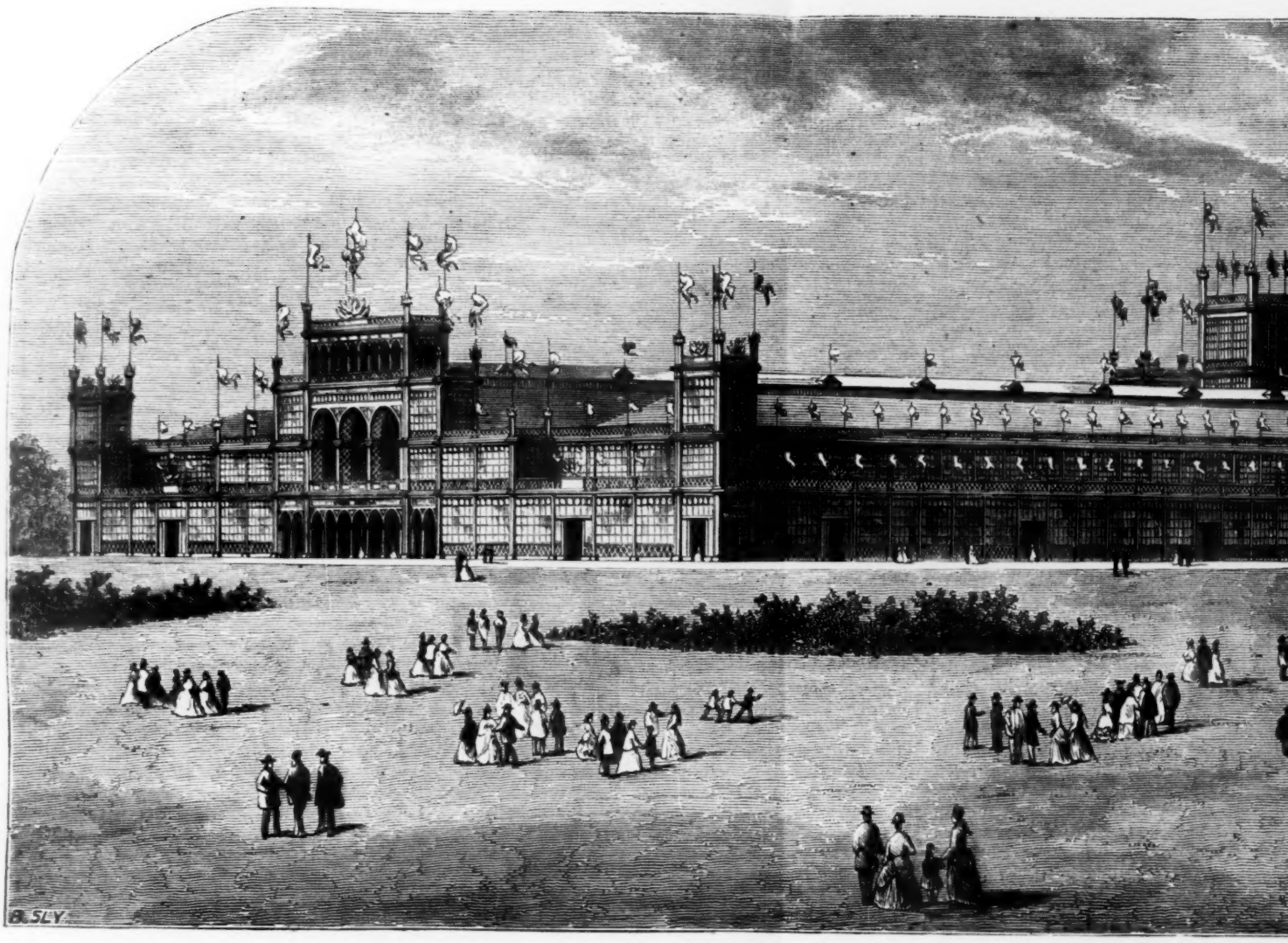
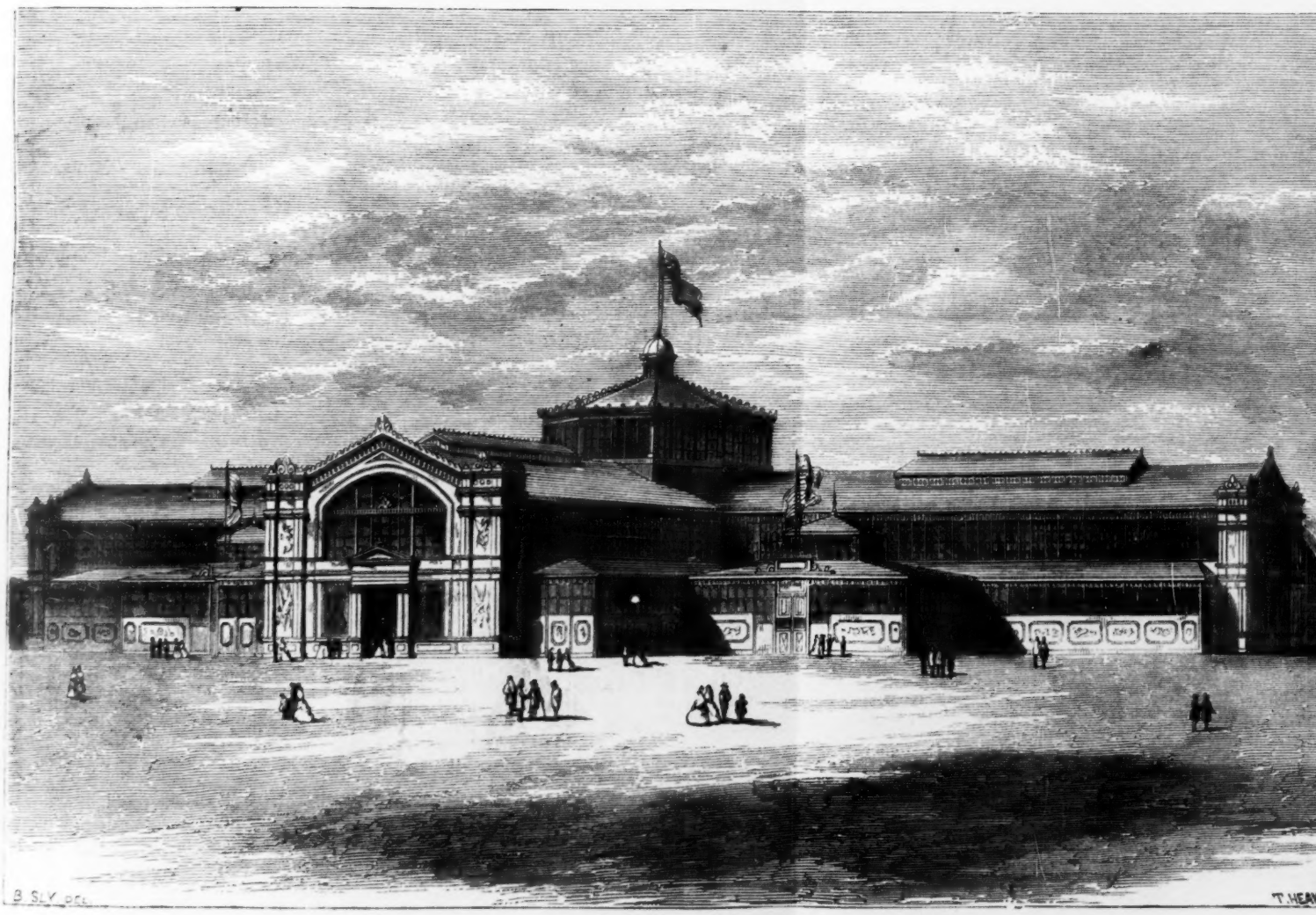
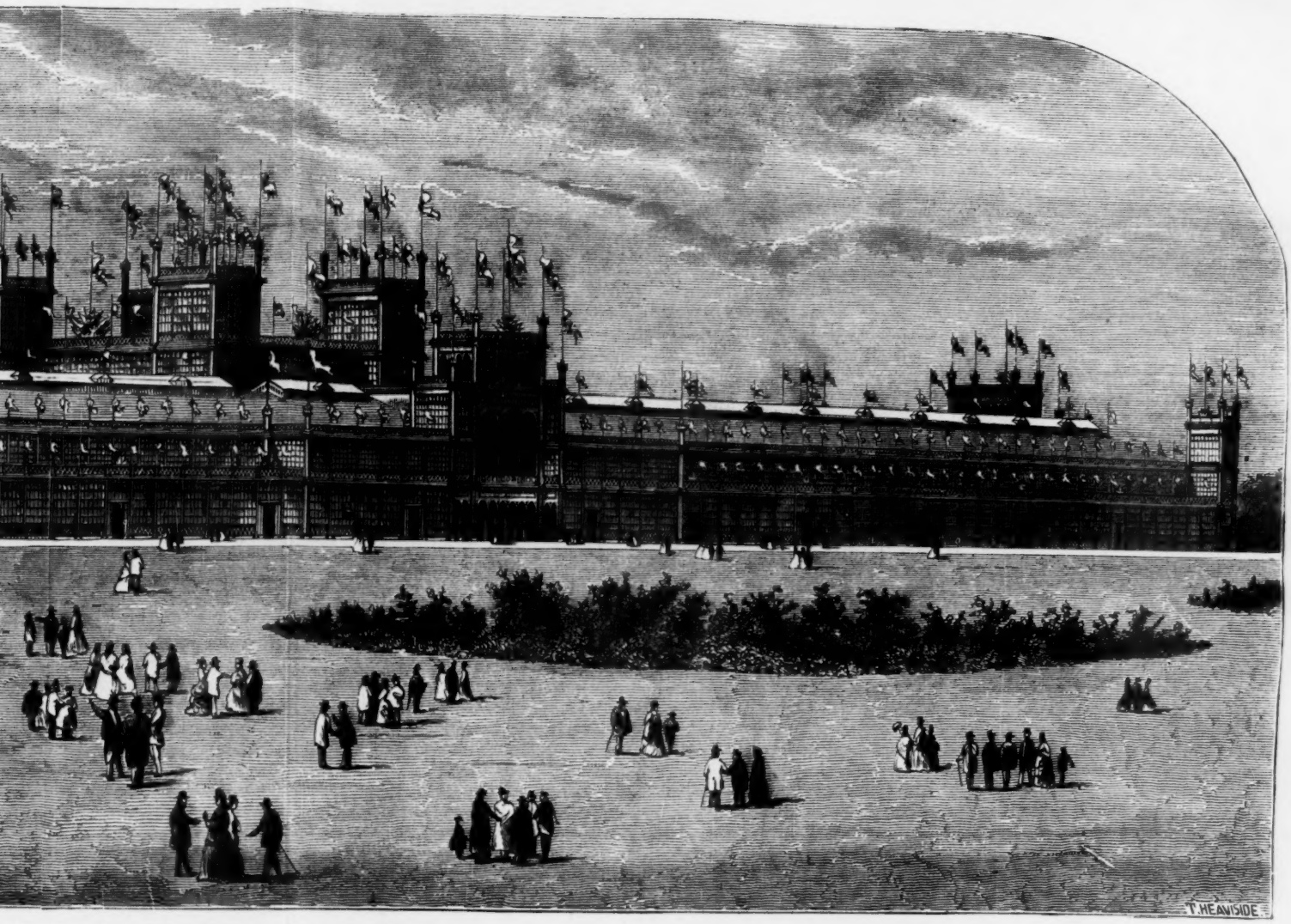


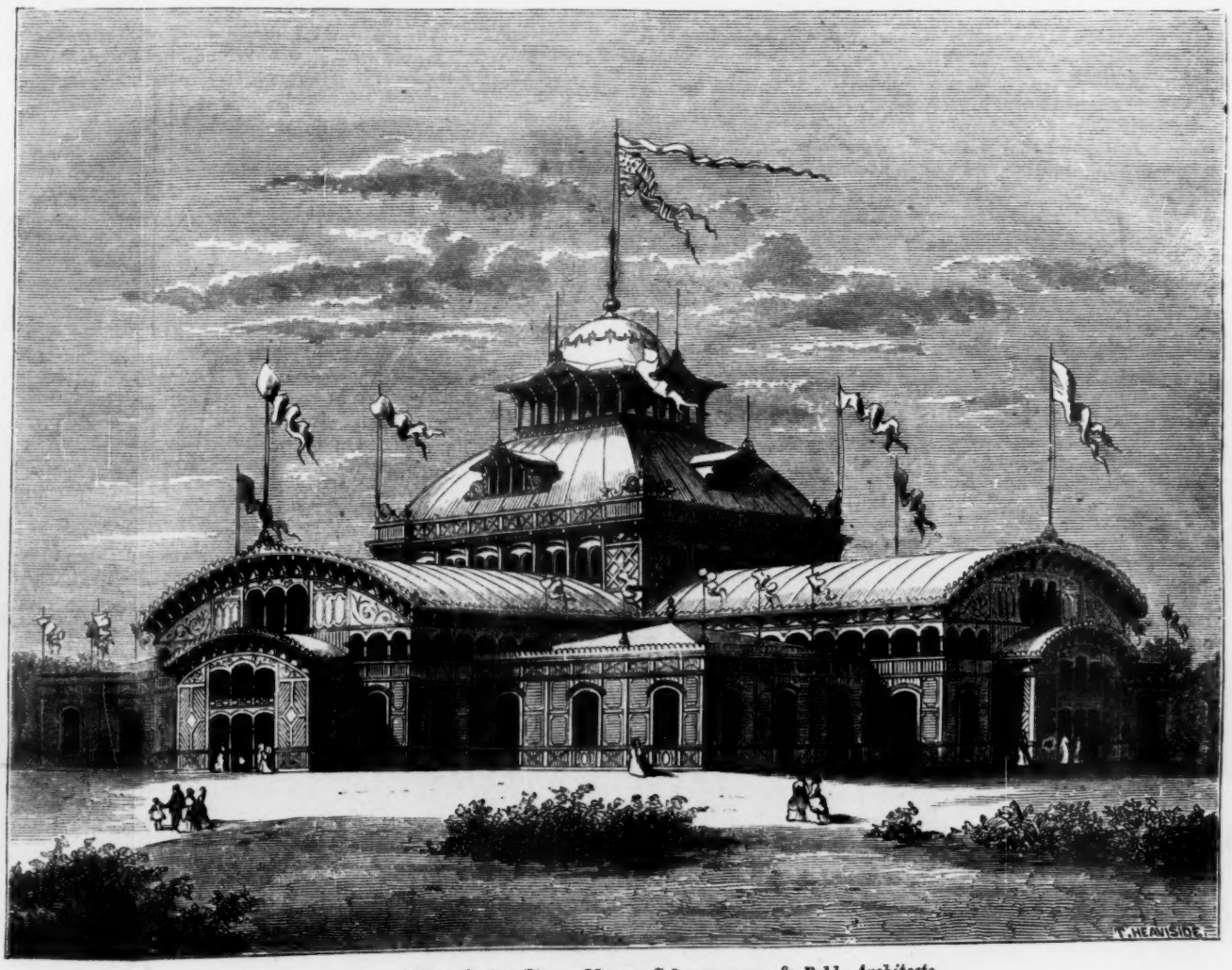
INTERNATIONAL EXHIBITION, PHILADELPHIA, 1876.——THE MAIN EX



United States Government Building.—Mr. James H. Windrim, Architect.



EXHIBITION BUILDING.—Mr. H. Pettit, Engineer; Mr. Jos. M. Wilson, Architect.



[See p. 111, *ante*.]

Women's Pavilion.—Messrs. Schwarzmann & Pohl, Architects.

OLD CLEEVE ABBEY.

THE Rev. Mackenzie E. C. Walcott, B.D., read a paper "On Old Cleeve Abbey" at the meeting of the Royal Institute of British Architects on Monday evening last, as already mentioned. The paper, which was exceedingly long (occupying twenty-five pages of the Institute "Transactions," whereas the average length of a paper read before the Institute is only about eight pages), was illustrated by a number of tracings of pavements and tiles from the abbeys of Cleeve, Muchelney, and Athelney, and by ground-plans of some representative English and Continental abbeys. Having spoken of the choice of site and general arrangement of a Cistercian abbey, with reference to exceptional treatment in the ground-plan, the author gave an account of the exhumation of Old Cleeve Abbey Church, made at the cost of Mr. Luttrell, of Dunster Castle, of which he gave the first intelligence in a letter to the *Times* of August 25, 1875. He proceeded to offer a succinct account of the daily life and ritual of the Cistercian order, and the purposes to which their buildings were allotted, with their furniture and arrangement. Attention was drawn to the apparent peculiarities of the abbey, such as the aisleless chapter-house, the position of the day-stairs to the dormitory, and the refectory lying east and west (of which other instances were adduced), and approached by a high flight of stairs. The true position of the retro-choir and cemetery was ascertained, whilst several erroneous theories were combated: for instance, the alleged invariable ground-plan, which is disproved by existing remains; the choice of a site on picturesque grounds, whereas it was designedly selected from its unhealthiness; and the misuse of the terms fratry (meaning, in fact, a confraternity) applied to the chamber properly called, from its fireplace, the calefactory; and of *Domus Conversorum* (the special name for a house of Jewish converts, now the Rolls Court), as the designation of the chambers of the lay brothers. These points were confirmed on the authority of the Ritual and Statutes of the General Chapter, compared with the chronicles and inventories of the English abbeys. The lecturer exhibited tracings of a beautiful pavement found during the excavations, composed of tiles of a heraldic character, and of the most graceful design, which he further illustrated by those found by Mr. Shelmerdine at Muchelney, one of which contained a representation of an elephant nearly of the same date as one carved by Bishop Bruère, an Oriental traveller, on the misericords in Exeter Cathedral, and earlier than the famous portrait in the Cottonian MS. of the first elephant brought to England in 1255, according to Matthew Paris. The conventual buildings round the Cloister-square retain roofs and floors, and form the most perfect series not in ruins existing in this country. The south wall of the nave, and a large portion of the south transept, are also standing. The foundations of pillars and other portions of the fabric are now exposed, and the whole site has been fenced in. In conclusion, Mr. Walcott referred to the purity and refinement of the Cistercian buildings, which attained the highest architectural effect, without the slightest use of meretricious ornament. He commended the study of Cistercian architecture to the younger members of the profession, and in that study they could have no abler guide than Mr. Edmund Sharpe. It was a study, moreover, which could be pursued without going, like the troubadour of old to find his lady-love, to Italy, France, and Spain. Finally, all would be the better for more fully bearing in mind the old motto of the Cistercian builders,—"*Laborare est orare.*"

In the discussion which followed,

Mr. B. Ferrey said that while in Somersetshire last summer he came across Mr. Walcott when he was pursuing his investigations at Cleeve Abbey, and from what he (Mr. Ferrey) then saw, together with what was stated in the paper, he (speaking as an architect) was disposed to agree with the conclusions arrived at by Mr. Walcott. It would well repay any member of the Institute who happened to be in that part of the country to go from Taunton down to Watchet and visit the interesting remains brought to light by Mr. Walcott.

The Rev. T. W. Baker briefly described the discoveries which he had made at Beaulieu Abbey some years ago.

The Rev. Thomas Hugo referred to the discovery made by him many years ago of the common-seal of Cleeve Abbey, which represented an abbot with his crozier kneeling before the Madonna and Child, under a beautiful canopy of Early English work. He believed that a careful study of these monastic seals would be the means of throwing a great deal of light on monastic architecture, and he asked the Institute to accept an engraving of the Cleeve Abbey seal.

The Rev. Mr. Denton thought that Mr. Walcott had not quite apprehended the reason why the Cistercian monks chose the sites they did for their monasteries. It should be remembered that they had the exclusive sale of wool for a long time, and they were also the great leather-sellers of their times. The sites were presumably chosen rather with reference to the facilities for carrying on these branches of trade than with regard to the beauty or otherwise of the site.

Mr. Loftus Brock said that Mr. Mackenzie Walcott's drawings and tracings exhibited on the walls were the result of true archæological work; in other words, they were obtained, not by taking books and copying a little piece out of one, and a little piece out of another, but by going to work with mattock and spade. He thought that Cleeve was the most perfect example of a Cistercian house in the whole kingdom, and he hoped that Mr. Walcott would take steps to put on record in some tangible form the valuable information which he had gleaned respecting it. He thought archæologists might take encouragement from what had been discovered at Cleeve, for the site appeared to be one of the most unpromising that could possibly be explored. There were 500 sites of abbeys in England yet to be investigated, and he trusted that the success met with at Cleeve would prompt the investigation of some of these sites.

Mr. Edmund Sharpe then, with the aid of plans which he exhibited, proceeded to enter minutely into some of the points of difference between the conclusions arrived at by Mr. Walcott and those arrived at by himself. He (Mr. Sharpe) contended that the primitive type of Cistercian abbey to which he had referred in his works, was only to be met with in the twelfth and thirteenth centuries. Cleeve was, it should be remembered, only a small abbey, and the rules which were observed in the first two centuries of the order were utterly neglected in later times. The monks fell off, not only in diet and in morals, but in architecture. He was willing to admit that there were examples in which the Cistercians did not follow the universal rule of putting the refectory transversely, but longitudinally; but the exception proved the rule. In twenty-one examples of which he had drawn the plans to scale, the refectory was at right angles to the church,—*i. e.*, due north and south. He defied Mr. Walcott to show him a fireplace in a *fraterium* so early as the twelfth century. As to the cause which had determined the sites of Cistercian abbeys, he thought that seclusion was the only object; for there was no trade in wool until long after the abbeys were founded. In conclusion, Mr. Sharpe said he accounted for the different views taken by him and Mr. Walcott by the fact that the architect illustrated his reading by his plans, whilst the archæologist illustrated his plans by his reading.

Mr. William White, F.S.A., in proposing a vote of thanks to Mr. Walcott for his paper, said he believed it would be universally found that in the early ages the monks made a special point of placing every building which was essentially secular at right angles to the church, the church being always east and west; therefore he thought there was good ground for supposing that the refectory at Cleeve ran north and south.

Mr. B. Ferrey, in seconding the motion, said that the thanks of the Institute were also due to Mr. Sharpe and the other gentlemen who had taken part in the discussion.

The Chairman (Sir Gilbert Scott), in putting the motion to the meeting, said "Who shall decide when doctors disagree"? Mr. Walcott and Mr. Sharpe had both given a great amount of study to the subject of Cistercian abbeys, and both were well entitled to speak on the subject. As to the position of the refectory, one gentleman brought twenty examples to show that it invariably ran north and south, while the other brought a dozen examples in which it ran east and west. He (the Chairman) differed from Mr. White in saying that the Cistercians took pains to place their buildings for secular purposes north and south; there were no special reasons, religious or otherwise, why they should do so. He thought that as architects the members of the Institute would feel deeply indebted to Mr. Walcott and Mr. Sharpe for having brought under special notice, now and on former occasions, the grand simplicity and purity of the early Cistercian architecture. Every architect might take useful lessons from it. However much it might be the fashion to use carving and other enrichments, it should never be forgotten that fine and noble architecture was possible without any of those added "spices." The early Cistercians build without any carving, absolutely forbidding all sculpture, all stained glass, and all wall painting; yet they erected buildings which were not excelled in grandeur,—stern grandeur, it might be,—by any architecture which could be found. Kirkstall Abbey, one of the earliest Cistercian buildings, was a grand lesson to those architects who, like himself (the Chairman), were somewhat given to luxuriating, and it served to call to mind Solomon's advice,—"Put a knife to thy throat if thou be a man given to appetite."

The vote of thanks having been carried,

Mr. Walcott, in replying to some of the points raised in the discussion, said that archæologists proved their theories by their facts and by documentary evidence. He was unable to find the equivalent of the term "day-room," as used by Mr. Sharpe in connexion with Cistercian buildings; indeed, he believed the term was first introduced at the Penitentiary at Westminster.

The meeting concluded with an announcement by Mr. Sharpe that the thorough exploration of Bylands Abbey was about to be undertaken by the Yorkshire Archæological Society.*

A PIONEER ENGRAVER.

THE reputation of Dr. Alexander Anderson rests on the fact that he was the pioneer engraver on wood in America, and the virtual inventor of the art on that side of the Atlantic. The story of the career of this remarkable man, who may be styled the Bewick of America, is far less known than it deserves to be. Indeed, he may be said to be altogether unknown in this country. He was of Scottish descent. His father was, we believe, a printer in Edinburgh, and emigrated to New York about the year 1770, in which city Anderson was born, on April 21st, 1775. The old War of Independence had just broken out, and it may be noted as a somewhat curious circumstance that not only did Anderson, senior, differ in politics from most of his countrymen in America at that time, who were generally distinguished for their loyalty to King George, but we find him among the very first to espouse the republican notion, and one of its most energetic and uncompromising advocates. He started a Republican newspaper, under the title of the *Constitutional Gazette*, and when, in the autumn of 1776, the British took possession of New York, the rebel printer was obliged to fly, with his goods and chattels, nearly all of which were lost before he reached a place of safety in Connecticut.

As early as his twelfth year young Anderson would seem to have begun to handle the graver as an amusement. He had no guide or instructor; but, as the poet tells us, "Genius finds its own road, and carries its own lamp." He gained his knowledge by silent observation and experiment. Many self-taught men of whom we read have found the means to gratify their early thirst for knowledge by poring over the open pages in the booksellers' windows. In like manner, Alexander Anderson, by peeping into the shop-windows of silversmiths, saw the shape and the method of manipulating the graver in the lettering of spoons. Rolled-out copper cents gave him his plates for first efforts. Notwithstanding the many difficulties that lay in his way, he made rapid progress in the art, and by his seventeenth year his proficiency was so great that he was commissioned by a bookseller to copy the illustrations of that once popular little book, "The Looking-glass for the Mind." These illustrations were by Thomas Bewick, the father of modern wood-engraving. Anderson had completed nearly half of the illustrations before he was aware that Bewick's were made on boxwood. His own engravings up to this time were all on type-metal, and it appears he had no idea that wood was used for the purpose. Here was a most important discovery, which must be turned to account. The young pioneer engraver immediately procured pieces of boxwood from a rule-maker's shop, invented proper tools, experimented, and, to his great joy, he found the material much more agreeable to work upon and more easily managed than his type-metal.

* Some further particulars of the discoveries at Cleeve Abbey will be found in the volume of the *Builder* for last year, p. 801.

Several of these blocks are still in existence. They are considerably worn by use, to be sure, but they are treasured as the very earliest specimens of wood-engraving in America, executed eighty-two years ago.

About this period of his life Anderson began to take a deep interest in the study of medical science, and this proclivity was fostered and encouraged by his father, who rather deprecated the notion that his son should be an engraver. The profession of a physician was much more to the parental taste. Accordingly, out of deference to his father's wishes, Alexander prosecuted his medical studies. In May, 1796, he received the degree of Doctor of Medicine from the faculty of Columbia College. The subject of his diploma address was "Chronic Mania," and it is no small compliment which has been paid to the youthful M.D.,—for he was only twenty years of age,—that the theories which he then advanced concerning lunacy have since become well-established facts in medical science. But he had not lost his passion for art. In the first year of his practice Dr. Anderson drew and engraved on wood a full-length human skeleton from Albinus's "Anatomy," which he enlarged to the length of 3 ft. This, it is believed, is one of the largest and most carefully elaborated engravings on wood ever attempted, and is said to be admirable, both in drawing and execution, even when compared with the art at the present day. Shortly after this, Dr. Anderson had the misfortune to lose the whole of his family by yellow fever. He himself was attacked, but recovered, and with a view to recruit his strength he took a voyage to the West Indies, where he had a maternal uncle, Alexander Anderson, who was "the king's botanist" at St. Vincent. On his return to New York,—that is, in his twenty-fifth year,—Dr. Anderson resolved to abandon the medical profession and devote himself entirely to engraving. He could not forget his first love. Anderson preferred wood-engraving, but the demand for it being small he practised on copper, receiving instruction from an eccentric Scotsman, one John Roberts, a friend of Anderson's deceased father, who painted miniatures, etched and engraved on copper, was a clever musician and mathematician, and a competent draughtsman,—in a word, a sort of universal genius. Unfortunately Roberts was as dissipated as he was clever, and though Anderson gained great proficiency under his instruction, Roberts's habits of intemperance were such as to compel Anderson to give up the advantages which he might have derived from that artist's practical suggestions.

During his long and busy life, Dr. Anderson engraved many thousands of subjects. Among his principal works were illustrations on copper for Josephus's "History of the Jews," executed so long ago as the year 1799. In 1808 he executed on wood about seventy illustrations for an American edition of Bell's "Anatomy," copied from the originals, etched by Bell himself. He also furnished engravings for a quarto Bible. Between 1850 and 1855, he executed nearly 100 illustrations of Shakspeare's plays from original designs. But his most popular work is the illustrated edition of "Webster's Spelling-book," which, for over seventy years, has been a leading elementary class-book in the schools of the United States. Its sale has been enormous, and at one time amounted to about a million copies a year. In 1857 a new and more fully embellished edition of that work was published, the engravings being again executed by Anderson from drawings by Morgan, one of his pupils. Indeed, he found continual employment for his remarkable abilities, until called upon to lay aside every implement of labour for ever. He was eighty-seven years of age before his hand had lost its cunning. Only two years previously, when he had completed his eighty-fifth year, Dr. Anderson issued a new business card, drawn and engraved by himself, bearing the appropriate motto, "*Flerus non Fractus*," and also executed his own portrait. Dr. Anderson's reminiscences extended back to the closing scenes of the revolution, and his fund of anecdote and geniality of conversation made him a favourite with all who came in contact with him. With most of the literary and professional men of New York, in the early part of this century, he was familiar, and was universally beloved for his sterling virtues. Washington Irving, who was one of the earliest friends of his youth, used to relate how he learned from Anderson to play the flageolet. At the time of his death, which took place in 1870, Dr. Anderson had reached the patriarchal age of ninety-five. He discovered the art of long life by observing two things,—regularity and temperance. "I would not," he was wont to say, "sit up after ten o'clock at night to see an angel." And so passed away an American Scotsman of the good old stock, whose name has been familiar to booksellers and readers in America for more than half a century, and whose mysterious little monogram, "A. A.," in the corners of woodcuts in educational books, has attracted the attention of millions of children in the schools and at the firesides of the United States.

THE GOLDSMITHS' ART IN SOUTHERN INDIA.

The native gold and silver smiths of Madura have long been celebrated, and consequently it was resolved that when the Prince of Wales visited the ancient city it should take the opportunity of displaying its loyalty by presenting to him such a specimen of workmanship as would give him reason to be pleased to remember the dusky donors and to entertain some pride in counting them among his future subjects. The needful funds were soon forthcoming, and after much consideration designs were selected for a casket, to contain the usual loyal address, and also for a sort of throne, which it was resolved to offer to the future emperor as a sort of memorial of his visit. Such works are not completed in a day, and for many months the native artists were busy with their task, and were just finishing it when the startling intelligence arrived that the royal tour through the South would not take place. The local consternation was great; for Madura was one of the places specially tabooed. Orders were given to destroy the arches which had been erected, and intending visitors warned that they need not come. But the Madura folks were full of faith, and at the eleventh hour it was rewarded. His Royal Highness has been slightly wilful throughout his trip, and insisted on seeing the Madura temples, notwithstanding the advice of his counsellors; and the consequence is, that both the casket and the throne are now included among his belongings. The former is of pure beaten gold, the length being 10 in., the breadth 6 in., and the depth 7 in., and contains 200*l.* worth of gold. The elaborate figuring illustrates the mythological stories of the goddess of the great temple. The corners are cut away to make room for Tarlis—mythical animals frequently represented in the buildings of the town. The back panel of the box contains a representation of the coronation of Menachi, the last of the Pandiyan line, she being the daughter of the last king, Malayadwajan. The Pandiyan power having passed into the hands of a female, the secular power was weakened, till, after a lengthened period, the priests defied her, and ruled in her name. Hence the honour rendered to her was but a mere political trick to confirm their own power. The panel at one end of the casket represents the Thikuvijayam,—a ceremony in which the new sovereign shoots arrows to the eight points of the heavens, thus asserting supremacy. Menachi was encountered by Sundereswaran, who disputed her authority and also claimed to be her lord. She recognised him by predicted secret signs, and owned him as her future husband. The third group on the front portrays the marriage of Menachi with Sundereswaran; and the fourth group, on the other end, represents the bestowal of the sceptre, and the transfer of the temporal power to the dynasty of the Naicks, but really indicates the support accorded by the priesthood, which was purchased by the endowments given to the temple. The top has in the centre an oblong dome, richly chased with a raised ridge, bearing the inscription "Madura, 1875." Two panels, each containing ten niches separated by columns, from which spring graceful arches, represent respectively the ten incarnations of Vishnu, and the ten forms of Eswaran. Each of the two side panels contains five separate niches, the centre ones with figures of Sabramaniya, the god of war, and Pilleyar, the belly god. The other niches are filled with their supporters. The four corners of the lid are filled with intertwining serpents. Round the panels runs a double margin, half an inch wide, of richly-chased scroll-work. The throne is made of pure silver, lined with crimson damask, spangled with silver stars. The four legs are formed by mythical animals rampant, having the body and head of a lion, and the trunk of an elephant. The arms are formed by two silver lions passant. The back is a Hindu arch, supported by miniature columns, in the centre of which are the Royal Arms of England, surmounted by the Prince of Wales's crown. Springing from twin columns rise two spiral supports for the canopy. Round this canopy runs a fringe of silver band network, with silver beads and crimson tassels. The Prince of Wales's feathers, chased in silver, appear supported apparently by two mythical birds. In the centre of the lower surface of the canopy is a large silver boss. This throne is accompanied by a silver footstool, formed by four lions couchant.

OUR SOURCES OF SUPPLY.

MEMEL AND ITS TIMBER TRADE.

Memel, with the name of which most of our readers are familiar, is a little German port on the Baltic. It used to be a very picturesque place, from the number of windmills which it contained, and by which it was surrounded, but it is rapidly losing its quaint old-world look before the progress of steam. There are still about a score of the long-armed aërial motors which may be counted from the sea, and all are employed in sawing timber; but there are quite as many more establishments of the same kind which depend solely on engine and boiler. The population numbers about 25,000, and all are dependent on the traffic in wood. The trade is conducted as follows:—Timber cut down during the winter in the large forests of Poland and Galizien is floated down the river Memel and its tributaries to the Prussian village of Russ, situated about thirty English miles from Memel, into the Kurische Haff. Here it remains until sold, and then is formed into more secure rafts and sent to Memel at the risk of the Prussian purchaser, either by way of the Kurische Haff or the King William Canal. The latter is the more expensive if the more secure route. This canal was dug in expectation that all the timber-rafts would pass through it, but thus far it has proved almost a complete failure. In order to get into the canal the rafts have to go about three miles up the Menge, a small river, which is sometimes too shallow, and sometimes too strong in the current to force the rafts against it. If the canal is therefore to be of any use it will be necessary to extend it for these three or four miles to Memel itself, when it may be made a paying concern. The port itself, although difficult to approach in stormy weather, possesses many advantages over the other Baltic ports. The harbour is excellent, and is rarely closed by ice, and then only for a few days, so that almost at any time ships can enter far enough to be in safety. Its progress, however, has been greatly checked by the want of railway communication with the interior of Russia. All the more valuable goods are forwarded to ports possessing this facility, the time gained, and the speedy exchange of merchandise into money, fully counterbalancing any additional expense. It is expected that the early opening of the Memel-Tilsit line will, in great measure, remedy this defect, and will also bring back many branches of commerce which formerly flourished in the town. The protective duties levied by Russia also have a most pernicious effect, and as yet all the exertions of the Prussian Government to get greater facilities have been unsuccessful, and the sole chance of amendment in this direction lies in the hope that Russia will soon discover that lower duties and less protective measures would be of equal benefit to herself and her neighbours. At Memel the round timber which is brought from Russia, as above described, is sawn into planks, and made ready for shipment by sea-going vessels. Close upon a million pounds worth is exported in the year, and England is the chief customer. The Government indulges in the hope that all present disadvantages may be soon overcome, and last year expended nearly 50,000*l.* in the improvement of the port.

Will of the late Mr. Foley, R.A.—The late J. H. Foley says in his will, "I desire that my two assistants, Mr. Brock and Mr. Dewick, and Charles Bell Birch, finish all my works now in progress according to the models." We have seen a correspondence, in the course of which the executor of Mr. Foley and his solicitors give various reasons why Mr. Birch has not been employed, and is not being employed, as desired by Mr. Foley. The clearness of the instruction makes us very much disposed to think that the law, if appealed to, would give Mr. Birch compensation for the loss sustained.

PROPOSED SANITARY CONFERENCE.

AT a meeting of the Joint Committee of the Council of the Social Science Association and of the British Medical Association on State Medicine, held on the 12th of January, it was resolved to hold "a thoroughly efficient representative Sanitary Conference, to discuss the organisation and administration of the sanitary laws." It is proposed to hold the Conference in April next, and the secretaries have been requested to draw up a paper stating their views as to points specially demanding attention in the present law, and with special reference to the Public Health Act, 1875, and of a general scheme for transaction of the business of the Conference.

BRITISH AND AMERICAN ARCHÆOLOGICAL SOCIETY IN ROME.

THE meetings of this Society are going on vigorously. According to Forbes's *Tourist's Directory*, the promenade on Tuesday, January 18th, was over the Esquiline. The Society traced the remains of the agger from the remains of the tower, with the masons' marks, to the arch of Gallienus. The auditorium or green-house was then visited and its frescoes examined, also the remains of the agger near by. The Nymphæum of Alexander Severus was examined, and the ruined aqueduct that supplied it with water. Next, the round building called a Castellum Aquæ, a tomb, a Mediæval castle, though its actual use is difficult to demonstrate. It consists of four oval towers, formed with the outer circular wall, having a small court in the centre; it is built of concrete, which was probably faced with marble or stone. Beneath each tower is a chamber which may well have been for sarcophagi. In the court was a *Cippus*, with the following votive inscription to the fortunes of the baths of Verulanus:—"FORTVNABus BALnei VERVLiani Q. HOSTILIVS AGATHOPVS. *Donum Dedit.*" It is not known if this was its original site, or merely placed here temporarily; it has now disappeared. The road Via in Merulana is thought to be a corruption of Verulana. Mr. Parker first thought it a Mediæval castle, but now considers it a Castellum Aquæ or reservoir. Mr. Forbes calls it the tomb of Mecænas, who was buried on the skirts of the Esquiline. Tradition likewise calls it a tomb. Mr. Hemans considers that it may well be one of the numerous pleasure-houses of Gallienus, who had large gardens in this neighbourhood. The Society then bent their footsteps to the New Museum, near the Minerva Medica, formed by the *Compagnia Fondiaria Italiana* out of the objects found in the recently discovered columbaria. These objects are highly interesting, consisting of inscriptions, lamps, glass, vases, ornaments, and large water-colour drawings of the frescoes described above; also, a small fresco of a man driving a biga, the horses of which are very spirited and well executed. The Minerva Medica and the reservoir of the Marcian aqueduct were then visited, also the highly interesting and in many respects unique group of columbaria recently exposed to view by the above Society.

On Thursday, January 20th, the Society took a promenade over the southern part of the Celian hill, first visiting the church of St. Stefano Rotondo, considered by Mr. Parker and Mr. Hemans to be of the fifth century; some authorities consider it as the temple of Claudius erected by Vespasian, though begun by Agrippina and almost demolished by Nero; others call it the Macellum Grande, or meat market, of Nero, and it certainly corresponds with that building as shown on a coin of Nero by Mr. Tighe. There is a similar building at Perugia, which is there considered as an ancient temple. A visit was then made to the remains of the houses built against the cliff of the hill below, where there was an ancient road; one of these houses has been dignified by being called that of Seneca, who mentions that he dwelt on the Celian, but there is no authority for calling these remains the house of Seneca, and the construction is much earlier than his time,—in fact, of the republic. The nymphæum near by was then visited; though called by the name of Alexander Severus there is evidence in its construction of an earlier date. The aqueduct at the back was full of water, and goes to the reservoir in the grounds of Baron Hoffman. A piece of black and white mosaic floor excavated in the vineyard above was next examined; it is of the third century, and represents a boy and flowers. The tomb in the Villa Campagna, of the first century, was then visited, also the Church of Santi Quattro Incoronati, Carponferus, Severus, Severianus, and Victorianus. Mr. Hemans explained the frescoes in the Chapel of St. Silvester, of the thirteenth century, representing events in the fabulous account of the life of Constantine the Great.

On Friday evening, January 21st, Mr. Hemans gave an interesting lecture upon the sculptures in the Capitoline Museum.

THE NEW THEATRE ROYAL, EDINBURGH.

THE new Theatre Royal, Edinburgh, was opened on the 27th ult., having been constructed within three months from the commencement of operations, from plans by Mr. Phipps, architect. Sitting accommodation is provided for 2,300 persons, or about 300 more than could be comfortably seated in the old Theatre Royal. Ventilation is provided for partly by openings into the corridors, and special apertures above the gallery, but mainly, so far as the body of the house is concerned, by an iron-cased shaft passing from the ceiling through the outer roof, and in which an upward current will be maintained by the sunlight in the centre of the ceiling. Care, it is said, has been taken to obviate draughts by placing double doors, opening outwards, in the various entrance passages: if successful, it is more than can be said of most theatres. As to decoration, that of the proscenium is simple in design; and the salient mouldings are picked out with gilding on a general ground of dark-cream colour. A flat ceiling, defined by mouldings into a circular form, the outer edge of which ranges with the gallery-front, is painted with Romanesque ornament on a ground of turquoise blue. In the front of the gallery the colours of the ceiling are repeated on a cream-coloured ground; the front of the second circle repeats the latter tint, and is relieved with gilding in the shape of foliated ornament; while the dress circle shows a front of open metal work gilt throughout. The circle boxes have their frontage covered with crimson cloth, which harmonises with the dark-green paper, picked out with gilding, that covers the back walls. With a proscenium opening 27 ft. wide by 39 ft. high, the space available for scenic purposes is 61 ft. wide between walls, and in the centre 59 ft., but at the sides, where the back corners are cut off, only 36 ft. deep. The stage is provided with seven traps (including that required for the operatic prompter), ten cuts, and four bridges, the whole structure being so contrived as to be capable of immediate adaptation to all probable requirements. For the orchestra a space 6 ft. 9 in. wide is reserved between the footlights and the front of the pit. The area in the basement, below the pit, has been floored with concrete, and is to be appropriated as ballet-room and supers' room; while the back part of the space below the stage, not required for scene-shifting machinery, is set apart as a room for making properties. The corner spaces partitioned off at the back of the stage afford on the stage level, and on two floors above, a series of dressing-rooms, with offices for the manager and stage manager; and on the gallery level there extends over these rooms, as well as the intervening scene-dock, a workshop with a private room attached for the scene-painter. The curtain is of morone-coloured baize, to harmonise with the general tone of the decorations. The act-drop, painted by Messrs. Gordon & Harford, shows a Florentine scene between draperies, on which are displayed medallions of Shakspeare, Scott, and Burns. From the same artists has come a considerable portion of the general scenery, the remainder being produced by the resident painters, Messrs. Galt and Morgan.

The construction of the theatre has been carried out under the superintendence of Mr. Frank Stripling, clerk of works. Exclusive of scenery, the cost is stated to be about 11,000*l.*

A Free Aquarium for Ipswich.—Mr. Edward Packard, of Birkfield Lodge, has offered to present the inhabitants of Ipswich with an aquarium in connexion with the museum. The offer has been accepted. The aquarium will, of course, add greatly to the usefulness of the museum, and will constitute one of the public attractions of Ipswich. It will, we believe, be the only instance of an aquarium open to the public without charge.

AUSTRIAN EXPENDITURE.

FROM official documents just published, it appears that, during the year 1875, the Austro-Hungarian Government expended 1,221,000 florins on State buildings; 195,000 fl. on new works; 12,000 fl. on telegraphs; 81,000 fl. on the Academy of Sciences; 70,000 fl. on the Museum of Industrial Art; 9,000 fl. on the maintenance of old monuments; 954,000 fl. on technical high schools, and 1,432,000 fl. on technical middle-class schools; 361,000 fl. on fine-art high schools; 22,000 fl. on students' libraries; 92,000 fl. on funds for students; 50,000 fl. on the Oriental Museum; 2,562,434 fl. on the sea and harbour sanitary service; 197,000 fl. on land and forest schools; 70,700 fl. on land and forest improvements; 199,500 fl. on mining offices; 78,500 fl. on mining schools; 1,464,000 fl. on the State forests and lands; and 4,800,000 fl. on the State mining establishments.

ROOF PAINTINGS AT SALISBURY CATHEDRAL.

AT a meeting of the Society of Antiquaries, on the 27th ult., a letter was read from Mr. Disraeli, in reply to a suggestion of the Society that the obelisk which had been given to the English nation might be brought from Alexandria. The Premier called attention to the fact that much correspondence had taken place on the subject in 1867. The authorities of the British Museum had been consulted, and had given their opinion that the removal of the obelisk would not be worth the cost, as the hieroglyphics had been much defaced.

Mr. Armfield then read a paper on the paintings on the roof of Salisbury Cathedral. These had been covered over with a buff wash when the cathedral was restored by Wyatt, in the last century. Many of these paintings were distinguishable through this wash, and when the present restoration under Sir Gilbert Scott commenced, it was hoped that the wash might be cleared away, leaving the paintings beneath. Unhappily, however, it was found that the pigments beneath the wash had been reduced to powder, and any attempt to remove the wash removed the pictures also. These pictures were on medallions between the groining ribs of the roof, and tracings of a great number of them had been taken, which were exhibited on the walls by the kindness of Messrs. Clayton & Bell. These paintings were of a very early date, being of the latter end of the thirteenth century, and were now being replaced by more modern ones. They were all of about the same period as the consecration of the cathedral, and extended from the beginning of the choir to the place where the altar at present stood, near the wall dividing the Lady Chapel. Some of those in the large medallions were pictures of some pretension; the others were of a very varied description. The prophets, apostles, and evangelists were represented in the medallions extending over the choir and the small transept, over the further end of which was the representation of the "Majesty." The other pictures were smaller, and represented, as far as could be made out, the months of the year, only seven of which, however, had been identified. Mr. Armfield then argued that from the character of the pictures the present high altar must originally have been under the representation of the "Majesty," and not under the meaner representations of the months. He knew that Sir Gilbert Scott differed from him in this view, but there was a passage in Leland describing the position of the tomb of a bishop just outside the wall, near the high altar, proving that the high altar must have been where it now stands. Mr. Armfield referred at great length to numerous authorities in support of his argument.

Sir Gilbert Scott said that he thought Mr. Armfield was perfectly right about the period of the pictures, which undoubtedly belonged to the latter part of the thirteenth century; the other ornamentation on the roof was precisely the same as that in the lady chapel, showing that Mr. Armfield was quite right upon that point. He differed from Mr. Armfield in regard to his conclusions. In the first place, the distance between the stalls and the present position of the high altar tallied very closely with that which he had found was the distance in ten other cathedrals. Sir Gilbert Scott concluded by reading a paper from Mr. Beresford Hope, M.P., agreeing with the views expressed by Sir Gilbert.

Mr. Scott contended that it would have been impossible to have performed the ritual within the space which would be left if Mr. Armfield's theory were right.

The Rev. Mackenzie Walcott argued in support of Mr. Scott's view of the matter, as did also Mr. Micklethwaite.

UNHEALTHY OCCUPATIONS.

In giving the fourth of his special series of lectures, on "Industrial Pathology; or, the Influence of certain Injurious Occupations on Health and Life," at the Society of Arts, on the 21st inst., Dr. B. W. Richardson, F.R.S., dwelt specially on the injuries produced upon the artisan classes of the community by the agency of dust and lead. The class of persons particularly exposed to the effects of these sources of malady were workers in earthenware, commonly called "potters." The followers of this industry were amongst the most ancient artisans on the face of the earth, and their art had now been brought to a state of perfection never approached in any earlier age. Yet it was sad to reflect that the potters constituted one of the three classes of the population which exhibited the lowest vitality. At the last census there were in England and Wales 45,122 persons engaged in the potteries. Of these, 29,169 were males, and 16,953 females. Amongst the males the mortality was no less than 38 per cent. higher than the average death-rate for the males of the whole community above the age of fifteen years, and this increase chiefly showed itself in carrying off persons in the prime of life,—say at thirty-five years of age. Notwithstanding this, the social position of potters was far superior to that of many classes of far longer vitality. They were a temperate, steady, and essentially a rural people, being, in the greatest number of cases, natives of the district in which they worked, and seldom caring to move far away. This characteristic, together with their physiognomy, proclaimed them of genuine Saxon blood. Their wages were good, and poverty was a name practically unknown among them, since there was plenty of work for all, and no lack of skill for its performance. A general description of the Staffordshire district and its physical features was given, and the lecturer then went on to treat in detail of the general health of its population. The inhabitants were, he said, generally poor in physique. They were weakly, wan, and pale, notably so in the case of the women. They were subject generally to most of the diseases common to other members of the population; but the special maladies which caused the enormous excess in their mortality over that of other classes of the population were three in number,—bronchitis, pulmonary consumption, and lead-paralysis. Many interesting statistics were given in support of these facts, and it now remained to inquire into the causes of the prevalence of these diseases among them. In the first place, no doubt the persistent monotony of the potter's occupation led to a nervous deterioration which would strongly predispose his system to the ravages of consumption. Cleanliness in the homes of the workers was religiously observed; but unfortunately this remark was not applicable to their hands,—hence the frequent slow poisoning among those of them who constantly manipulated lead. The climate was not on the whole an unhealthy one, but the atmosphere of the pottery districts was greatly clouded and contaminated with smoke, dust, and furnace and oven fumes of various kinds, and the part played by the inhalation of dust, and particularly of fine sand, in the production of pulmonary consumption, must now be regarded as established almost beyond doubt. Repeated chemical analyses of the human lungs had shown silica to be absent as a normal constituent of those organs. Nevertheless in the ash left on incinerating the lungs of a potter, Professor Church had detected in round numbers 48 per cent. of silica, 18 per cent. of alumina, and 5 per cent. of oxide of iron. This showed to what an enormous extent finely-divided clay was being constantly breathed, with the fatal effect, too, of completely hardening the portion of the lungs in which it accumulated. The inhalation of dust, therefore, must be regarded as one of the chief causes of increased mortality among the potters, the other being that which had been already alluded to,—lead paralysis. This was a most painful and protracted disease, slow but sure in its effects, and it was sad to reflect that it was in such an eminent degree due to the careless indifference above referred to on the part of the men. Whether any suggestions could be put forward to revolutionise the melancholy state of things existing among these people was a matter for most serious consideration, and any practical steps tending to improve them must be hailed with welcome, if merely on the ground of common humanity. In commencing his lecture, Dr. Richardson referred, in terms of deep regret, to the recent death of Mr. Davenport, the financial secretary of the society, who had rendered him material help in the preparation of this course of lectures.

THEATRES AND SOUND.

Sir,—With reference to the Baltimore Opera-house, mentioned in your last volume, I may say that observations made on sound, both in open and confined spaces, during a number of years, led me to the conviction that the movement of the atmosphere towards the audience, under circumstances analogous to those which in large open spaces seemed to govern the transmission of sounds, unimpaired in character, to great distances, would be the proper principle to adopt for large halls. In planning the Academy of Music in Baltimore, I was restricted by the size of the ground only. Adopting such lines and forms in building as were evidently favourable for seeing and hearing, I then built the house to secure a strong steady movement of the whole air, which is supplied warmed in winter from the rear of the stage, towards the entire audience, whence it is withdrawn by a powerful exhaust in the ventilating shaft over the great chandelier. Any one who has observed the manner in which a large volume of smoke, rising towards a ventilator in say a station-shed, curls over and depresses the succeeding volume, will understand why I expected to secure an air movement almost horizontal at first. This has been perfectly secured, and there is no part of this large theatre into which sound from the stage does not pass with all the tone that accompanied its emission. That the air should be homogeneous, and moved without pulsation or cross-currents, is of course required, and is effected by the mode of supply and egress, and by guards against disturbing draughts. If there is a complaint now to make, it is that we hear too well; the words of the prompter, trial notes from the piano of the green-room, and orders from the stage-operators, are all delivered to the audience; and as the house is not in the hands of a company trained to its peculiarities, but is rented from night to night for almost every possible purpose, a good deal of explanation is required, and some little experience, before persons accustomed to other houses learn to conduct themselves in this one. Towards the stage the house is very quiet; the little bustle of movements and the subdued conversation of the audience do not reach the performers. Mdlle. Titiens has told me that she never sang where she was so little disturbed by such causes. About one year before the construction of our Academy, I explained in one of our art papers the principle on which it was planned, and confidently predicted its success.

J. Crawford Neilson, Architect.

Baltimore, Maryland, U.S.

COLOUR.

Sir,—That colours are sensations excited in us by a certain mode of motion, and that, externally to the sentient, there can be but an infinite number of differentiations of this mode of motion, is an accepted fact. This is no new doctrine of mine: I only keep the fact steadfastly in view, in order to prevent the otherwise inevitable misleading of the senses, in questions relating to the subject of colour.

Perhaps it may help all who are still possessed by the conviction that colour is inherent in the things themselves, to divest themselves of this error, if we point out the fact that neither Mr. Colling nor any other mortal has ever seen the things themselves. Let us keep, for instance, to his "*inherently green grass.*" Now let us ask him if he has ever seen that grass by any other means than through the medium, the intervention, of those rays of force which, impinging on it, are reflected to his eyes? Never! His eyes are, therefore, not sufficiently in the confidence of the grass to have had any special revelation that it is inherently green. The impression of colour received from the same piece of grass will vary as the periodicity of the vibrations impinging on it vary, and Mr. Colling, observant as he is of nature, has not failed to notice that his "inherently green grass" under different conditions of vibratory force gave him two very different sensations of colour, viz., a yellow green, and a blue green. Now, taking into consideration the fact that our friend has never seen the grass itself, can he, with any show of reason, affirm which of those two greens is its inherent colour? That same piece of grass would, however, under other conditions, reflect other rays, which would excite other quite different sensations; much less, therefore, is Mr. Colling in a position to affirm anything in respect to the *inherent* colour of the grass.

The sensations of colour produced by reflections from grass under the sun are very different from those which are produced by its reflections when exposed to the unclouded empyrean, as is often the case in shadows. This difference is very marked at sunset, the illuminated portions of objects under the direct action of the sun's rays appearing golden, whilst their shady sides, which receive their rays from the open sky, opposite to the sun, will appear coldly blue. There is a very interesting effect to be observed on architectural façades when the sun is low: the shadows underneath the cornices, &c., will appear very hot as compared with the general surface of the stonework, which is neutralised by the rays reflected from the open sky above. These rays are prevented from affecting the space immediately below the cornice, on account of the projection.

It has been said by the greatest of authorities that "the light is within you." This is equally true of both the moral and physical worlds.

W. Cave Thomas.

NEW CONCERT HALL, BUXTON.

The foundation-stone of a new concert-hall in connexion with the Pavilion and grounds belonging to the Buxton Improvements Company has been laid by the chairman of the company, Dr. Robertson. The additions to the grounds will be over three acres of land. The additional buildings consist of a reading-room (completed and in use), a music-hall, corridor entrance to it, and artistes' rooms for both ladies and gentlemen, a smoking-room, a skating-rink, and suitable offices to the same. The music-hall is octagonal on plan, and 102½ ft. external diameter; the heights are, to the eaves of the aisle 24 ft., to the junction of aisle with dome 39 ft., and to the top of dome cresting 71 ft.; the diameter of the dome is 50 ft. It will be supported with eight pairs of coupled cast-iron columns 35 ft. long, with ornamental caps and bases. The girders and ribs of the aisle and dome are of lattice work in cast-iron; these with the cast-iron ornamental spandrels, will be seen from the interior. Other large projections have been avoided so as to interfere as little as possible with the acoustic properties of the hall. The ceiling of the aisle and dome is to be lined with pitch pine boarding, stained and varnished; and the interior generally will be relieved by colour in artistic decoration. The hall will be lighted by a sun-light in the centre, of large power, and the large iron shaft in which it is to be fixed, together with the eight windows at the base of the dome, will provide ample ventilation. The corridor connecting the hall with the present pavilion is 45 ft. in length, by 25 ft. in breadth, being 3 ft. wider than the present corridors. The hall will accommodate about 2,000 persons, and the corridor, which may be used in conjunction with the hall, will accommodate about 250 persons, making together additional accommodation for 2,250 persons. The artistes' rooms behind the orchestra, for ladies and gentlemen, are each 20 ft. by 13½ ft. The smoking-room, with its appurtenances, which is entered from the outside only, is 25 ft. by 21½ ft. The whole will be warmed with hot-water pipes. The skating-rink, which is partly formed, is at the north-west corner of the new grounds, and will be 180 ft. in length by 40 ft. in breadth. There will be a terrace on three sides, averaging with the recesses nearly 20 ft. wide. These recesses are for single and grouped seats, and will give ample sitting-room, leaving the whole width of the promenade free. There will be a roof 100 ft. in length over the rink, leaving 80 ft. without a cover. The sides will be left open. At the entrance to the rink will be a ticket-office and suitable dressing-rooms for ladies and gentlemen. Both roofs will be covered with zinc, and the whole of the woodwork will be stained and varnished. The

terrace in front of the present pavilion, which is 400 ft. long, will be continued 600 ft. more, by 60 ft. in breadth, making a total length of 1,000 ft.

Messrs. Eyre & Rogers, of Buxton, were the contractors for the reading-room, which was furnished by Messrs. Kendal & Milne, of Manchester. For the erection of the music-hall, corridor, smoking-room, &c., Messrs. Rankin & Co., of Liverpool, have contracted for all the cast and wrought-iron work; Messrs. Ellis, of Sheffield, for the warming; and Mr. W. H. Brown, of Stockport takes all the other trades. Messrs. Eyre & Rogers are building the roof over the skating rink, and Mr. W. H. Brown the offices, &c. to the same. The new grounds will be laid out to harmonise with the old; and a children's playground will be provided on the sheltered and sunny bank between the skating-rink and the river. The total cost will be about 12,000*l.*

REGISTRATION OF TRADE UNIONS.

THE report of the Registrar of Friendly Societies contains the following passage as to the registration of trade unions:—

"In connexion with the subject of trade unions, the Registrar desires to call attention to a matter of great importance. By the Trade Unions Act, 1871, it is provided (s. 13) that the Registrar, upon being satisfied that a trade union has complied with the regulations respecting registry in force under the Act, shall register the trade union and its rules. The effect of this is that if a trade union provides in its rules for the matters prescribed in the first schedule to the Act, the Registrar is bound to register the rules, however contrary to law all their other provisions may be. The rules submitted to the Registrar by trade unions very frequently contain provisions contrary to law, self-contradictory, or not expressing the real intention of the framers. In these cases he has gone beyond the strict limits of his duty, and called the attention of the unions to the matter, but often without result. For example, trade unions are not exempted from the operation of the Life Assurance Companies Act, 1870, if they insure sums at death, yet the rules of many unions contain provisions for payment of sums at death without any reference to the requirements of the statute. Again, the rules of trade unions frequently provide for the payment of sums at death to persons nominated, which, though allowed with certain limits by the Friendly Societies Act, is not legal in a trade union. Rules of trade unions are frequently so framed also as to purport to apply to the union other provisions of the Friendly Societies Act,—as those for settlement of disputes, exemption from stamp duty, membership of minors, &c. Such rules, of course, although registered, would have no binding effect, and, in respect to any infraction of the provisions of the Life Assurance Companies Act, the trade union might become liable to penalties. The Registrar thinks it important that the attention of trade unions should be drawn to this. It cannot, again, be too clearly understood that section 5 of the Trade Unions Act, which enacts that the Friendly Societies Acts shall not apply to a trade union, and that the registration of a trade union under those Acts shall be void, has the effect of depriving of all legal sanction any rules of trade unions for benefits in sickness, old age, or at death."

BUILDING AT BELFAST.

THE *Belfast Newsletter* comments upon the rapid extension of the town limits, to which we have lately drawn attention. New streets and terraces of houses have sprung up, new avenues of trade have been opened. On patches of formerly waste land enormous factories now stand. The most remarkable feature in these transformations has been the suddenness with which they have been accomplished. An instance of this has been afforded in the restoration and enlargement, for Messrs. Gamble & Shillington, of the Broadway damask-mill on the Falls-road. Last summer the Broadway Mill, which had been built not very long previously by Messrs. M'Laughlin & Harvey, builders, of York-street, was destroyed by fire. The contract for its re-erection was again given to M'Laughlin & Harvey, and the work was commenced on the 6th August. The dimensions of the shed were to be 250 ft. long by 158 ft. wide, the front being three stories high. This was so far an enlargement of the old factory that, whereas the roof of the former structure consisted of eleven bays, the new one was to contain two additional, making thirteen bays in all; yet although little more than four months have elapsed since the work was entered upon, it is now nearly completed. A story [somewhat apocryphal, we should say] is told about the proprietor of an extensive brickyard near the Staffordshire Potteries, who, it is said, left his house one morning last summer after a domestic storm, informing his wife that he would not return that night. On going to his place of business he set men to work on a new house, and, having abundance of hands and an unlimited supply of material, before the shades of evening closed in there stood where that morning not one brick or stone rested upon another a very comfortable and commodious detached villa, so that when his better half, finding him rather later at business than usual, and remembering his threat of the morning, drove to the yard, determined on reconciliation, she found him in a well-furnished apartment of his new house enjoying a Havannah and something hot out of a tumbler. Smart as was this building feat, it has been fully equalled in Belfast within the past few months. Last summer Messrs. M'Laughlin & Harvey commenced to construct a large cooler or dam in connexion with the premises of the Northern Spinning Company, off Northumberland-street. The required excavation was made, having a capacity of about 15,000 cubic yards, and the work completed. The clay dug out was then burned into bricks, and in a few weeks a row of substantial houses was built therefrom, and every one of them occupied. Shops and offices are daily being added to the marts and business establishments of the town. Numerous churches and chapels have also been erected of late.

CHURCH BUILDING AND RESTORATION IN ENGLAND.

THE following table, which has appeared in the *Scotsman*, summarises the statistics in the return which was issued a few days ago showing the number of churches, including cathedrals, in every diocese in England (except those of Peterborough, and Gloucester and Bristol), that have been built or restored, at a cost exceeding 500*l.*, since 1840, with the expenditure. Among sources from which funds have been drawn other than private benefaction are Queen Anne's Bounty, the Ecclesiastical Commissioners, and various local and national church-building societies. The great bulk of the sum of over twenty-four millions sterling, which, according to the return, has been expended on church building and restoration by the Church of England since 1840 has, however, been derived from private subscriptions and benefactions—probably about 80 per cent. It must be remembered that in this amount are not included restorations which have cost less than 500*l.*; while the returns from most of the dioceses have appended notes to the effect that the figures are known to be incomplete, and that the actual expenditure has been larger than is shown. There are also two large and important dioceses—Peterborough and Gloucester and Bristol—which do not make a return at all. It will be seen that more than a million sterling has been expended on the cathedrals; and in many cases the restoration is still going on. The return from the diocese of Bath and Wells does not show the number of churches which have been built or restored, or afford any means by which the number can be ascertained. In the case of several of the other dioceses, the totals are not supplied, and have had to be calculated. The return from Lichfield does not show the expenditure on the cathedral of that diocese. Thus the statistics in the following table, while they are an accurate summary of the contents of the return, can only be said to give an approximate statement of the facts with which they deal:—

Diocese.	Total expenditure.	Expenditure on cathedral.	Churches built and restored.
Bangor	£161,312	£21,000	96
Bath and Wells	728,359	22,013	—
Canterbury	917,399	57,359	307
Chichester	745,266	63,482	236
Ely	884,941	57,053	361
Exeter	782,305	25,300	401
Hereford	443,641	48,591	217
Lichfield	1,177,584	—	414
Lincoln	1,069,056	36,555	456
Llandaff	145,111	30,000	169
London	2,708,613	62,203	402
Norwich	727,713	17,000	396
Oxford	1,305,357	20,000	561
Rochester	1,413,924	19,876	463
St. Asaph	408,371	9,969	148
St. David's	374,453	27,835	228
Salisbury	879,426	50,574	333
Winchester	2,042,873	4,500	588
Worcester	1,121,854	114,295	332
Carlisle	391,498	21,610	160
Chester	1,219,312	58,000	273
Durham	687,109	65,384	256
Manchester	1,513,446	59,407	350
Ripon	954,622	40,000	349
Sodor and Man	28,210	—	15
York	1,291,335	74,580	382
	£24,061,081	£1,006,526	7,892

"Petticoat-Lane."—It is stated that Petticoat-lane is to be reformed, and that considerable improvements are about to be made in that thoroughfare. Artisans' dwellings are to be erected, and in consequence of this several of the inhabitants will shortly receive notice to quit.

EXEMPTION FROM HOUSE DUTY.

JEPSON *v.* GRIBBLE, SURVEYOR.

THIS was a case (Exchequer Division) involving an important principle—namely, whether the house of a medical superintendent of a pauper asylum, required to reside on the premises, was liable to inhabited house duty. It came before the Court in the shape of an appeal from the decision of the Commissioners of Inland Revenue, by which a sum of 1*l.* 17*s.* 6*d.* was imposed as inhabited house duty upon the house in question, on an estimated annual value of 50*l.*

Mr. Poland stated the case on behalf of the appellant. It appeared that Mr. Octavius Jepson was a medical practitioner, and appointed as medical superintendent to the City of London Pauper Lunatic Asylum. He resided with his family in a house built for the reception of such an official. Though this house was not actually within the asylum it closely adjoined it, and was within the boundary-wall of the main building. Counsel contended that the house must be held to be part of the same edifice, and therefore that it came within the exemption from taxation enacted by the 48th Geo. III. in respect to establishments of a cognate character. Having quoted the provisions of the Acts bearing on the subject and referred to some authorities in point, the Attorney-General, in support of the impost, relied upon the terms of the 17th & 18th Vict., establishing the inhabited house duty as decisive upon the subject. He referred to a Monmouthshire case (which he regarded as being on all fours with the present) as a precedent which should solve any doubt upon the matter. That was a case in which a doctor (Mr. Cullagh) appealed against a somewhat similar assessment as the present, on the ground that he resided in a house close to the asylum to which he was the resident medical officer, that such house was built by the authorities of the asylum, though a little time after the main edifice had been constructed, and that it was standing upon the land of the asylum, although separated from it by a turnpike road. [The Lord Chief Baron—A very important distinction from the circumstances connected with the residence of the present appellant.] He also quoted some other cases which he deemed to be authorities.

Their Lordships were unanimous in their judgment in favour of the appellant, on the ground that his residence was substantially part of the asylum of which he was the resident medical superintendent, and that it was obviously the intention of the Legislature to exempt such institutions from the rates in question.

Mr. Poland said the Act gave the Court discretionary power of ordering costs.

The Lord Chief Baron: Oh, yes; the Crown must pay the costs of these proceedings.

DARLINGTON.

AN Industrial Exhibition was held in the Central Hall, in this town, on the 26th, 27th, and 28th ult., and financially was a success. The arrangement of the goods and patterns exhibited was very defective, owing to the unsuitableness and smallness of the building for the purpose. The light was bad, the things were crowded too close owing to want of space, and the passage-ways very narrow. In the minds of the committee it was, no doubt, thought to be the best place available for the purpose; but the covered market-house opposite is infinitely better suited for the purpose than the Central Hall. As it is only used on Saturdays and Mondays, there is no reason why it could not be used at the next industrial exhibition; for it is much larger, better lighted, has ample stall space besides plenty of standing-room, and has better access. In the day-time the place was crowded, but in the evenings the people were wedged in, such was the pressure.

T. B. W.

LOUGHBOROUGH.

ON Thursday, 27th ult., Lieut.-Col. Ponsonby Cox, R.E., one of the Engineering Inspectors of the Local Government Board, held an inquiry at the Town-hall, Loughborough, in reference to an application made by the Loughborough Local Board to borrow the sum of 1,300*l.*, to be expended for improvements in the Flood Channel, and the construction of safety weirs and sluices at the Loughborough Waterworks, in accordance with plans furnished by Mr. George Hodson, C.E.

Colonel Cox stated that he had examined the drawings and estimates submitted, and informed the Board that he should recommend the Local Government Board to sanction the loan. He afterwards, accompanied by Mr. Hodson, made an inspection of the works in progress at the reservoir, which include a new filter of large size, and a covered service tank, the plans for which were sanctioned in November last.

New Coal Exchange for Glasgow.—The *Glasgow News* states the Victoria-place property at the foot of West Regent-street, between West Nile-street and Renfield-street, has been purchased by the Committee of the new Coal Exchange. The price is 96,800*l.*, which is equal to 21*l.* 8*s.* per square yard.

ON THE EDUCATION OF BRICKLAYERS.

Sir,—Your correspondent, Mr. Morris, in his letter upon this all-important subject,—vide *Builder*, December 25th, 1875,—says he will not attempt to explain the causes of what he calls the widespread ignorance displayed by the majority of bricklayers. This omission on his part, I beg to suggest, is to be regretted, as, from his peculiar position as secretary of a trade-union lodge, he should be able to give a thorough explanation. I am of opinion that the more the causes of any particular evil or grievance are discussed the more likely are some practical ideas as to the remedy to be arrived at; therefore, before I venture any comment upon the remedies suggested by your correspondent, I will offer a few remarks upon the causes.

In attempting any explanation upon this subject, the first thing to be considered is, what class are the majority of bricklayers drawn from, and what amount of elementary education are they able to bring with them on their first introduction to the trade? Time has been, and not so many years ago, when the name of bricklayer was synonymous with drunkenness and blackguardism, and although, except in some few isolated cases, they are no longer deserving the opprobrium, it, unfortunately, still clings to them. The work is precarious, and being mostly out of doors, they are necessarily exposed to the weather, and subject to loss of time, and many other drawbacks, to which the other branches are not so liable. Consequently, for these very reasons, the trade is not generally courted by those having the advantages of a good elementary education. Again, access to the trade is so very anomalous. We will suppose a youth who is tolerably well educated, and has a mind to become a bricklayer. He finds it closed to him, without an apprenticeship, most likely accompanied by a premium, because he cannot submit to what would be to him the degradation involved in passing through a probationary period of hod-carrying. Moreover, the building trade is in the hands of general contractors, who, as a rule, do not care to take apprentices to the bricklaying branch; they share the prevailing mistaken notion that anything can be made into a bricklayer, and takes no time to do it; consequently they throw away the protection which apprenticeship in a measure would afford to keep out the ignorance that is swamping the intelligence which is as necessary in a bricklayer as in any other artisan.

Again, the later days of railway construction and other large works all over the country have given great facilities to the manufacture of these so-called bricklayers. I say later days advisedly, because in the earlier days of railway construction, none but the most skilled bricklayers were employed. This is evidenced by the quality of the work, with which the brickwork of the present day will bear no comparison. In those days bricklayers would resent any attempt by a labourer to steal an opportunity to lay a brick, by shoving him into his proper place and making him keep it. But as railways became more developed, and the demand for bricklayers increased, wages rose, strikes intervened, and the system of subletting was extended. By degrees labourers have been employed to fill in the body of the walls on all works of a massive nature, where every course of bricks covers the imperfections of the one beneath it, and in course of time these men obtain by those means just sufficient smattering of the craft to enable them to grope their way about, and don the name of bricklayer, and with the impudence, the sure companion of ignorance, they assume the position, and in contradiction to the statement of your correspondent, that intelligent bricklayers are surprised, it is only too well known—for are they not recognised by the Union, which measures its strength by numbers, not by a standard of ability and intelligence?

Now, sir, having described the class of men that are as a rule so freely imported into the trade, I will follow them to their work. A great many people connected with the building trade, especially those whose business it is to get a profit out of it, entertain the erroneous idea that simply to pile bricks one upon another is sufficient for brickwork; that there is any fundamental principle upon which it is based never enters their heads; into such hands, the majority of the men, such as I have described, almost invariably fall, and as it is plain a man cannot teach another that of which he knows nothing, these men go on in just the same groove as they started, and at the end of ten or twenty years in nine cases out of ten are as ignorant of the art as at the commencement. How can it be otherwise, seeing that no one teaches them, and, having no previous mental education, their minds are not sufficiently expanded to grasp it for themselves? Moreover, it is not so easy a task to attempt to teach them when once they have got a start upon their career, for if there is one thing more than another they dislike it is to be told of their failings, especially by one of their own trade. It is of frequent occurrence that such a one, in the exercise of his duty, finds it incumbent upon him to complain of a piece of faulty workmanship: he is met with an oath, and any show of authority or remonstrance is the signal for a volley of abuse, the usual termination of the dispute being, the workman indignantly demands his wages, and walks off with the air of an injured party, more than likely accompanied by the hearty approval of the rest of the gang.

Again, owing to the working of the union, the vicious system of a uniform rate of wages is in full swing, so that these illiterate, untrained, so-called bricklayers are levelled up to the same rate of pay as the thoroughly intelligent and proficient workman, who has worked his way up through a lengthened period of good training, probably initiated by an apprenticeship, receiving while serving it a mere nominal rate of wage, which afterwards has been advanced only as he has progressed in proficiency. This system destroys emulation, because under it a man has no inducement to apply himself to a close pursuit of proficiency so as to be able to compete with the skilful workman, when he knows he is already his equal at the pay-office, and as he has possibly never tasted knowledge either mentally or mechanically, and gets on very well without it, he cannot be made to feel he needs it, or that there is any pleasure to be derived from it. Again, the sudden possession of a high rate of wage too often tempts him to rush into dissipation, which in the evening deprives him of the opportunity of acquiring mental education, and in the morning makes him unfit for the study of his work, he being only too glad when it is time to get away from it.

Another cause, which is the natural outcome of the foregoing, is the great preponderance of carpenter-foremen placed in charge of brickwork, because with such the unskilful bricklayer can push his way with far greater ease than with a bricklayer-foreman, who is able to select his men with judgment, and, if untrammelled by the action of the union, rate them as to their pay according to their individual ability. Moreover, he has the theoretical and practical knowledge, which, coupled with the opportunities, enables him to improve the training and increase the proficiency of his men, that a carpenter has not. Now, sir, one more remark before I close. If those intelligent men with whom your correspondent, Mr. Morris, identifies himself, had used their powers,—which as representative bricklayers they undoubtedly possess,—in combating ignorance and incapacity, and encouraging intelligence and proficiency in their constituents, with the same energy and devotion as they have in leading labour to combat with capital, we should have been spared the humiliation attending the discussion of the necessity of teaching the majority of bricklayers the three R.s, in addition to the simple technical details of their trade.

A Bricklayer Clerk of Works.

NOVELTY IN BRICKWORK.

The church at Felixstowe, near Ipswich, having been just rebuilt, a method of laying the bricks has been adopted which, as far as I am aware, is entirely new; and as the effect is, in my opinion, far better than could be produced by any other method with such rough materials, it is, I think, well worthy of notice. It had been intended to construct the walls of flint, with stone coigns; but the architect suggested that the materials of a martello tower just demolished might be had very cheap, and might be substituted for flints; but instead of laying the old bricks in horizontal courses as usual, he proposed to lay them all at an angle to the horizon, so that there should not be a single vertical or horizontal joint in the whole building, except in the stone-work. The idea is taken apparently from the herring-bone brick panels so common in old timber-framed houses, which idea he has carried out with as much regularity as the roughness of the broken bricks would allow.

The colour of the bricks is a good yellowish grey, and the effect altogether is decidedly good, and appears to me to be a remarkable instance of utilising a rough material which could not have been endured if laid in the usual horizontal courses.

It has often been a matter of surprise to me that no attempt appears ever to have been made to introduce the Roman reticulated brickwork, the ornamental appearance of which is still to be seen in many ancient ruins.

P. P. C.

IVORY.

Sir,—Allow me to thank you for the very courteous manner in which you have spoken (in your number for January 15th) of my handbook on "Ivories."

There is one "severe" remark at the beginning, referring to my judgment upon the leaf of a diptych in the British Museum. I would say that the reviewer has mistaken my meaning; which was not to suggest that the plaque equals, or even rivals, the works of Greek artists of the best pagan times, but that as a very early Christian work it may "claim a place" by the side of them.

As to my not having noticed the admirable ivory carvings of Mr. Cheverton, allow me to say that my subject ended with Mediæval ivories.

Let me add that your article contains a great deal of most interesting and valuable information about ivory, which scarcely fell within the limits of my little book, sufficiently to permit me to include it.

W. Maskell.

SCHOOL BOARD SCHOOLS.

Cholsey.—New schools for 213 children, with a detached master's residence, have been opened in the parish of Cholsey, near Wallingford, Berks. The cost, including boundaries, playgrounds, and fittings, is about 1,500*l.*, and the work has been executed by Mr. A. W. Dodd, of Caversham; Mr. W. Penstone, of London, being the architect.

Trelleck.—At the last meeting of the Trelleck School Board, Monmouth, eight designs were received from various architects. The one submitted by Messrs. Haddon, Brothers, of Hereford and Great Malvern, was unanimously selected, and they were duly appointed architects to the Board.

Pentlow (Essex).—New schools are being erected in this parish, in accordance with the requirements of the Board. Messrs. Geo. Grimwood & Sons, of Sudbury, are the architects and builders.

Inverness.—At the meeting of the Inverness Burgh School Board on the 12th ult., the plans and estimates for the new Merkinch school, submitted by Mr. Lawrie, were adopted, subject to the approval of the Education Department. The estimated cost of the buildings is 2,687*l.* 12*s.*

Tamworth.—At the monthly meeting of the Bolehall and Glascote School Board, held on the 14th ult., it was announced that in answer to advertisements issued, only one tender had been received for alterations to the present school and schoolhouse so as to meet the requirements of the Education Department. It was from Mr. H. Mottram, builder, Tamworth, as follows:—School, 1,198*l.*; schoolhouse, 215*l.*; total, 1,413*l.* This tender was accepted, subject to certain conditions to be decided upon by a committee.

Brynmawr.—New Board Schools at Brynmawr were opened on the 10th ult. The new school-room is situate on the north-western side of King-street. It was built by Messrs. Foster, Brothers, of Abergavenny, who commenced the work in November, 1874, according to plans and specifications prepared by Messrs. Alexander & Henman, architects, Stockton-on-Tees. The erection is in the modified Gothic style, with windows of Elizabethan character. The front elevation is of red sandstone rock work, with limestone dressings; and the slate roof, which slopes rather low, is surmounted by a bell-turret and bell. It is built to accommodate 750 children, and the contract price was 4,850*l.*

Yeovil.—The new public elementary schools at Yeovil were opened on the 10th ult. They have been erected from the designs of Mr. T. Mellard Reade, of Liverpool, architect, the plans being chosen from about sixteen sets submitted in public competition. They are divided into a mixed school for 160 scholars, and contain two class-rooms, which can be thrown together by sliding screens for collective teaching, and an infant-school for 150 children, containing a class-room for 44. Attached to the schools is a master's house, containing parlour, kitchen, scullery, and three bedrooms. The elevations are Gothic in style. The walling and dressings are of Ham stone; the roof is covered with ornamental tiles, and the carpenters' and joiners' work is of Baltic fir and pitch pine. The sole contractor was Mr. J. K. Chant, of Yeovil, and the fittings are by Mr. Hambridge, of Yeovil. Mr. George Hayter, of London, was clerk of the works; the contract for the whole, including playgrounds, is 2,185*l.*

THE LATE RICHARD ROLT BRASH, ARCHITECT.

RICHARD ROLT BRASH, architect, of Cork, whose able work on "The Ecclesiastical Architecture of Ireland to the Close of the Twelfth Century" we recently noticed, died at his residence, College View, Sunday's Well, in the above city, on the 18th ult. He had early imbibed antiquarian tastes through his association with the members of the South Munster Society of Antiquaries, the late John Windele, a zealous and laborious antiquary, and one of the most prominent members of that body, being his particular friend. To his study of archæological matters Mr. Brash throughout all his labours brought to bear his practical knowledge of architecture, and in none of his papers were his readers left in doubt about his meaning. He visited and examined with the eye of an architect, as well as with the love of an archæologist, most of the principal churches, abbeys, and round towers of note in the sister kingdom, supplementing the labour by a visit and examination of the only two round towers outside Ireland, those at Abernethy and Brechin, in Scotland. His papers on these last two towers were contributed to the proceedings of the Antiquarian Society of Scotland, of which he was a member, and afterwards published in 1861-2, in Edinburgh, under the title of "The Round Tower of Abernethy, with Drawings," and "Notices Historical and Architectural of the Round Tower of Brechin." Mr. Brash was member also of the Royal Irish Academy and of the Royal Historical and Archæological Association of Ireland, and to the proceedings of the latter Society he contributed a paper, "The Round Tower and Church of Dysert, county Limerick," printed afterwards at the University Press, Dublin, 1868. To the "Ulster Journal of Archæology," he contributed "Notes on the Round Tower Controversy," and subsequently on the same subject, "The Belfry Theory Examined." Both of these papers evidenced great research and a thorough acquaintance with all that was previously written on that perplexing and pregnant subject. Mr. Brash ranged himself on the Pagan side of the controversy, which has been as fruitful of various theories as that of the Christian side, but the particular theory which he upheld was of the monumental or sepulchral uses of these towers. The excavations of the South Munster Society of Antiquaries gave a certain strength to his opinions in this respect, although his friend, John Windele, in his "Historical and Descriptive Notices of Cork," was of opinion that the mystic structures were used in the system of fire-worship, — an opinion held by other Irish antiquaries. This aside. Mr. Brash brought to the study of the ancient architecture of Ireland, pre-historic and historic, considerable knowledge, and in his recently-published work, he purposely abstained from entering upon the question of the origin of the round towers, except incidentally, as he did not believe in their ecclesiastical character. Although Mr. Brash conceded to the late George Petrie the merit that none could deny him for his work on the round towers, and in illustration of the ancient architecture of Ireland, still he hesitated not to expose many of Mr. Petrie's fallacies, historical and architectural. Petrie, though a clever artist and laborious antiquary, was no architect, and he failed to detect architectural features that could not escape the eye of a professional architect. It was Mr. Brash's intention had he lived to have followed up his recent work by one in illustration of the Pointed styles as practised in Ireland, for he believed that there were several features in Irish structures peculiar to the country. One of the last literary essays,—we believe the very last,—of Mr. Brash's, was a letter in a Dublin paper in September last, "On the Restoration of Kildare Cathedral," which is to be "restored" on a plan prepared by Mr. Street in 1871, and now being carried out. Mr. Brash went point blank against the "restoration." After giving an exhaustive description of the existing remains of the so-called cathedral, Mr. Brash concluded thus:—

"To show the folly of the present proceeding, I would ask one question. Is it the intention of the restorers to construct the deficient parts in the same manner as the existing remains,—*i. e.*, will the wretched rubble masonry of the old, with its scanty meagre dressings, be imitated in the new? If not, it will be no restoration; if otherwise, it will be a standing jest for years to come. I am no foe to the restoration of our ancient buildings; far from it. Few men have taken a greater interest in their study and preservation than I have, as can be attested by my portfolio of measured drawings, collected from almost every ancient building in Ireland during the last thirty years; but I do object to the pseudo restorations that we have seen. The true principles of restoration have been frequently laid down as follows: that the building should possess merits of design or construction; that the principal portion of the fabric should be in existence and in a fairly sound condition; that no new features be introduced, the original plan being strictly followed; that the class of masonry visible in the old parts be strictly followed in the new. If the above obviously rational principles be observed in reference to the Cathedral of Kildare, its decaying relics will be allowed to moulder away in peace."

Mr. Brash's architectural practice was mostly confined to Cork and the south of Ireland. He has been ailing for some time; but the news of his death came unexpectedly on most of his friends and co-labourers. He was buried in the new cemetery, Cork, on the 22nd ult. The Cork corporation, of which he was a member, passed a vote of condolence to his widow, to whom, as his wife, his recently published volume was dedicated,—"the congenial companion of many a pleasant pilgrimage in search of the materials from which it had been compiled." Besides his widow we believe he leaves some daughters to mourn his loss. Respected and regretted, at the comparatively early age of fifty-eight passes away a practical antiquary and able architect.

THE WAPPING IMPROVEMENTS.

AN arbitration case, William Moodie *v.* Metropolitan Board of Works, was heard upon three days last week, at the Westminster Palace Hotel, before Mr. Harry Jones (Hunt, Stephenson, & Jones) as umpire; Mr. George Vulliamy being appointed arbitrator for the Board, and Mr. George Fuller (Fuller & Fuller) for the claimant. The claimant is a ship's carpenter, holding considerable property at 34½, Wapping High-street, and the Board had given him a notice to treat, in consequence of the same being required for the widening of that thoroughfare. The Board's witnesses valued the property under notice to treat as follows:—Mr. E. N. Clifton, 4,933*l.*; Mr. Horsey, 4,965*l.*; Mr. Harston, 5,011*l.*; and the Board's offer, under the seal, including compensation for loss of trade, amounted to 5,400*l.* On the other hand, witnesses were called on behalf of the claimant, and their figures varied from about 8,000*l.* to 8,418*l.* The umpire's award has since been made, and the same amounts to 8,018*l.*

THE NATIONAL CO-OPERATIVE BUILDERS' AND CONTRACTORS' SOCIETY, LIMITED.

THE inaugural meeting of the above Society was held at the offices, 36, New Broad-street, on Saturday last, when the report of the preliminary committee was presented, and the officers were elected for the first year.

This Society, which has emanated from a Club and Institute at Stoke Newington, aims to carry out upon co-operative principles the trade of builders and contractors, and the buying and selling of land and buildings.

Mr. J. C. Lake was elected chairman, and a vote of confidence was given to the manager, Mr. Thomas F. McCormick, who was able to state that nearly one thousand shares had been subscribed for among the committee and their friends, and that immediately 5,000 shares were issued the committee would commence work. The declared capital is 100,000*l.*

BACK DRAINAGE.

OUR readers know there is some diversity of opinion amongst the several metropolitan vestries and district boards of works on the question of what is termed back drainage as distinguished from drainage through the houses, which, as a rule, is recognised by the Metropolitan Board of Works. The Wandsworth District Board of Works has firmly resisted back drainage, in proof of which their differences with the Artisans', Labourers', and General Dwellings Company, in the case of the buildings on the Shaftesbury Park Estate, need only be cited. The Camberwell vestry, however, appear to take a more favourable view of the principle. The British Land Company have purchased an estate in East Dulwich which they are about to lay out for building purposes, and have applied to the vestry for permission to construct the sewers on the back drainage system. At the meeting of the vestry last week the sewers committee recommended that the application be complied with, subject to the consent of the Metropolitan Board of Works being first obtained, and on the condition that the sewers, when completed, be placed under the control of the vestry. The recommendation of the committee was unanimously confirmed.

HOUSES IN FLATS.

SIR,—In the "Miscellanea" at p. 64 of the current volume of the *Builder*, you say:—"A reader urges that attention should be given to the Berlin, and particularly the St. Petersburg, flat system, as superior to that of Paris, and better adapted to English domestic habits." The German and Russian capitals are comparatively so little known to ordinary Englishmen that a description of the system of town dwellings in vogue there would be highly interesting; and more particularly at the present moment, when several English architects are studying the best means of applying the Parisian mode of house-accommodation to London habits and wants. If, sir, your correspondent will enable your subscribers to learn something of Berlin and St. Petersburg houses, or say where information concerning them can be obtained, I for one shall be infinitely obliged to him.

WILLIAM H. WHITE.

"BOIS REPOUSSÉ."

THIS is the title given to ornamental woodwork produced by Mr. Ley's patent process now being brought into operation. It is executed by the pressure of steel dies, and we have seen a number of specimens of very good character. The "Bois Repoussé" ornament can be executed in the woods usually employed for internal joinery and cabinet work.

Friezes, pilasters, tracery, medallions, diapers, and so on, in the varied styles of art, can be executed with fidelity from special or existing designs or models.

To the cabinetmaker the facility and economy with which artistic enrichments can be adapted to the decoration of furniture would seem to commend it. The artistic goodness of the work will of course depend on the ability of the artists employed to prepare the models, and the mechanical excellence on the efficiency of the pressure used. There are obvious difficulties in the way, but these are said to have been overcome.

THE PARISH VESTRIES AND BAYLEY'S HYDROSTATIC VANS.

SEVERAL of the vestries at the West End and other parts of the metropolis have decided to adopt Bayley's hydrostatic vans in watering the streets during the present year. The Kensington vestry have resolved to purchase the whole of the vans they had on hire last year, one of the results of last year's trial showing a saving in horse-hire alone of about 1,000*l.* The Paddington vestry are also about to use them. At their meeting last week, they resolved to have the entire parish watered by these vans, in consequence of the success which attended their partial trial last year. Some of the northern parishes have likewise adopted them. For the purposes of giving them a full and effective trial, the Islington vestry had the entire parish watered with them last year, and the surveyor states that whilst the watering was efficient, the saving in horse-hire was between 2,000*l.* and 2,500*l.* This result has induced the vestry to decide upon their exclusive use during the present year.

New Mission Hall in Salisbury.—The St. Barnard's Mission Hall, Salisbury, was opened on the 20th ult. The hall is a plain substantial structure. It is 50 ft. long and 25 ft. wide, and is capable of accommodating about 300 persons. On each side there are several class-rooms, each capable of holding from twelve to fifteen persons. There are two larger class-rooms,—one for twenty and the other for forty boys or girls,—and there is likewise a room for the superintendent. The hall was built by Mr. Abel Harris, Mr. Hutchings acting as clerk of the works.

DISPUTED AWARD.

BLITH v. THE BOARD OF TRADE.

Mr. H. Matthews, Q.C. (in Common Pleas Division), said that this matter had been referred to arbitration, and his motion was for a rule calling upon Sir Charles Adderley, the President, and upon Mr. Trevor and Mr. Traill, assistant-secretary and chief surveyor of the Board of Trade, to show cause why an award made by Mr. Hoskin should not be set aside.

The plaintiff, in June, 1874, entered into a contract with the Board of Trade to supply new boilers to the Ramsgate steam-tug *Aid*. The designs for the boilers were approved of by the Board of Trade, and the work was approaching completion, when it was found that the sister ship, the *Castalia*, did not answer, her boilers priming a good deal, and thereupon the Board made some alterations in the designs, principally in connexion with the steam-chest. The plaintiff's charge for the work done was 5,619*l*., whilst the Board thought that 4,000*l*. would have been sufficient, and it was arranged that the question of amount should be referred to the arbitration of Mr. Hoskin. This gentleman awarded about 1,600*l*. less than the amount claimed, and his award was now questioned upon the grounds that he had received statements from the officers of the Board behind the back of the plaintiff; that he had not heard evidence which the plaintiff had tendered to him; and that, instead of confining himself to questions of amount, he had taken upon himself to decide a question of liability as to whether the Board could be called on to pay for extras,—a matter which had really never been referred to him at all.

Mr. Justice Brett.—Both parties seemed to have sent in to the arbitrator *ex parte* statements behind the back of the other.

Mr. Matthews.—But two blacks do not make a white.

Rule granted.

Books Received.

A short History of Natural Science and of the Progress of Discovery, from the Time of the Greeks to the present Day. By ARABELLA B. BUCKLEY. London: John Murray. 1876.

THIS is a delightful book, and one for which we confidently prognosticate a great circulation. It is intended for the use of schools and young persons; but thousands and hundreds of thousands of persons who have left school and are not young, will find advantage and pleasure in at once perusing it. The authoress acted as secretary to the late Sir Charles Lyell, and being thus brought into contact with many of the leading scientific men of the day, often felt very forcibly how many important facts and generalisations of science, which are of great value both in the formation of character and in arriving at a proper estimation of life, are wholly unknown to the majority of otherwise well-educated persons. From that feeling came this book. The precision and clearness with which Miss Buckley lays hold of and conveys the main result of an individual's teaching, or the chief characteristic of a period, is remarkable, as is the immense amount of information condensed. We do not set ourselves to discover omissions or errors: we are willing to recommend it just as it stands; but it will probably be noticed by its more minute critics that George Stephenson and the Railway are nowhere mentioned. In a history of natural science simply, this might be right enough; but it can scarcely be so in an account of "the progress of discovery."

We offer our acknowledgments to Miss Buckley for the singularly able manner in which she has executed a work of no small difficulty.

VARIORUM.

THE "Architects' Almanac," 1876, published by Wyman & Sons, is on a card of moderate size for suspension. On the back are given a number of useful tables and memoranda.——Sir John Causton & Co. issue some "Calendars" on card, with trade views, smartly adorned with Greek forms.——"The Channel Railway: Tube or Tunnel?" by P. J. Bishop. The writer says tube, and gives very briefly his views as to how it may be laid,—ingenious, but not convincing. The cost is estimated at 22 millions, and the time at five years.——Spon's "Architect's and Builder's Pocket Book," by W. Young, architect, has been further developed and improved for 1876, and will be found a useful pocket companion.——*Leisure Hour* says as to artists and musicians in London,—"Artists who practise in London number about 500, or one to 7,000 of the population, a number that seems but small when we recall the numerous exhibitors in the various galleries open to view every season; but, in fact, many London artists prefer, for obvious reasons, to reside a few miles out of town. Of sculptors, London boasts 140, or one to 25,000 inhabitants. Photographers are about 350 in number, or one to 10,000 inhabitants. Of wood-engravers there are about 170, or nearly one to 20,000 inhabitants; and this class of artists is constantly on the increase, owing to the large and continued demand for illustrated works. Turning to the subject of education, we find the number of schoolmasters and schoolmistresses, who are the proprietors of private schools, to be about 1,200, or one to 2,900 inhabitants,—a number absurdly inefficient at first view, but hardly so when we recollect that it does not include public schools, board schools, national schools, or ragged schools, and when we bear in mind the fact that a large proportion of the London youth of both sexes are educated at provincial schools. Of professors of foreign and dead languages the number is about 100, or one in 35,000 inhabitants. Of professors and teachers of music the number is 350, or one to 10,000 inhabitants. In carrying out their harmonious designs, the musical professors are aided by 280 pianoforte-makers, 50 organ-builders, 12 flute-makers, 10 fiddle-makers, 3 harp-makers, and some score of makers of various other instruments, amongst whom figures one guitar-maker."——The *Technical Educator* for February, remarks,—"The ordinary professional man's house built in the street of a busy town naturally abuts upon many an object that is not altogether pleasing to the eye. Light is required—the denser the population the more does it become a necessity, and the greater is the difficulty in acquiring it, but the outlooks are not agreeable; we must have windows, but we do not care to look through them; we must look into the streets, but we do not wish that every passer-by should return the stare and become familiar with all the doings of our little home; we must light our staircases with openings that front upon our neighbours' premises. In order to keep out the unpleasing sights and the unwelcome eyes, we resort to the dull, colourless, light-destroying blinds, or we insert the so-called ground-glass, either plain or else ornamented (save the mark!) with a pattern of stars or flowers. How much more pleasure might be derived from the contemplation of one of the many species of coloured windows than from either of these dull, lifeless, insipid transparencies! Blinds fully deserve their name, but a well-arranged window of slightly-coloured glass, with a pattern not too formal, rests the eye, leads it on from one portion to another, so that it is not fatigued, while at the same time it is employed."

Miscellanea.

Lead Colic in Devonport Dockyard.—In his report, for 1874, on Her Majesty's Dockyard at Devonport, Staff-Surgeon D. J. Duigan, M.D., says:—Thirty-six cases of lead colic were admitted during the year. This disease is an old one amongst painters, but somewhat modern amongst shipwrights. It may be dated amongst them from the time of the loss of the *Megæra*. Previously to the wreck of the vessel named, iron ships were more attended to outside than inside, as regards protective paintings of red lead. The result was the iron within suffered from corrosion from the bilge water. Hence ships are now more frequently overhauled. Before a fresh coat of red lead paint is applied, all the previous one is hammered and scaled off by a pointed or conical hammer, and during this tedious operation the men are working in a cloud of lead dust in confined places. As prophylactic measures, the usual old-established precautions inculcated in the lead factories are in force here, even to the sulphuric acid beverage. Regular lavatories and ablution-rooms, with hot and cold water pipes laid on, have been suggested; also a few warm and shower baths. The men are not employed more than two consecutive days at scaling off the lead. At the end of every hour they are sent on deck to breathe the fresh air for ten minutes, and during their absence from the compartment in which they have been working a supply of fresh air is pumped into it by Lloyd's blowing-hose. Everything is being done to mitigate the evil. It cannot be altogether prevented, for men must breathe, and so take in the impalpable lead dust. Respirators, good in theory, are impracticable and unendurable in a close atmosphere. Dr. Duigan concludes his report by stating:—In visiting the sick, we find their abodes generally miserable, and defective in sanitary arrangements. When the Bill for facilitating the improvements of the dwellings of the working classes becomes law, there will be a great field for its sphere of action in this neighbourhood.

New Wholesale Co-operative Warehouse, Newcastle-upon-Tyne.—On the 22nd ult. the new buildings erected for the Newcastle branch of the Wholesale Co-operative Society were formally opened. The buildings have been erected from the designs of Mr. Thomas Oliver, architect, and their total cost will be about 17,000*l*. In case an extension of the premises should be required the committee have secured additional ground for that purpose. The new building is an imposing structure, five stories in height, 120 ft. in length, and about 60 ft. wide. The materials used in the walls are red brick and substantial stone dressing. Mr. John Harrison was the contractor for the mason, bricklayer, carpenter, painter, glazier, and plasterer's work; Mr. David Donkin for the smith and ironfounder's work; Messrs. Walker & Emley for the plumbing and hot-water apparatus; Mr. Holden, of London, for the zinc work; and Messrs. Dawber & Sons for the slating. The lifts, boilers, and engines are from the Ousebourn Engine Works, and the carving has been artistically executed by Mr. Curry. Mr. Eadie has discharged the duties of clerk of works.

Birmingham Society of Arts and School of Design.—An anonymous friend has placed 10,000*l*. in the hands of Mr. Arthur Ryland, of Birmingham, "to improve and extend the operations of the school, and to aid in diffusing in Birmingham, both among producers and purchasers, a correct taste in art." The conditions of the gift, Mr. Ryland writes, are:—"That a plan tending to these results shall be placed in my hands before the 25th of March next; and that the plan adopted shall be approved by such gentlemen as my friend may desire to consult on the subject. In connexion with this, it may be well to mention that it is desired that the 10,000*l*. should be chiefly, if not altogether, applied to the improvement of the teaching department, and to the founding of scholarships or exhibitions. In order to develope thoroughly any scheme which may be adopted, more money will probably be required, but this will doubtless be supplied by the liberality of the town." The committee of the school have accepted the gift, and appointed a committee to prepare a draft plan.

Liverpool House-painters' Association.—The first annual tea-party and ball of the Liverpool House-painters' Association was held on the 24th ult. at St. George's Hall, the proceeds being devoted to the Liverpool Plimsoll Lifeboat Fund. Over 800 members and lady friends sat down to tea; and afterwards a meeting was held, Mr. Clarke Aspinall presiding. Mr. John Tatlock, the secretary, read a statement showing the work of the association. During the last three years there had been paid out of the funds 173*l*. 10*s*. to members who had met with accidents, 275*l*. 8*s*. 6*d*. for funeral expenses, and 103*l*. 7*s*. 5½*d*. to members seeking employment; and the association provided for members permanently disabled, affording also a reading-room for the benefit of members out of employment. In 1872 the number of members was 400, which had been increased to 1,400. The association had at present a credit balance of 1,565*l*.

"Half Sovereigns" for Paving Purposes. The *Camberwell and Peckham Times*, in its last report of the proceedings of "Our Local Parliament,"—*i.e.*, the Camberwell Vestry,—represents the following colloquy to have taken place during the discussion of a proposal to plant certain roads in the parish with trees, viz.:—"Mr. Grummant estimated the expenses of the trees as being about 100*l*. He said every tree would require a cradle, and then the ground round about would have to be paved with 'half sovereigns'" (laughter). The Surveyor explained that the term "half sovereigns" meant small "pitchers." Mr. Weller, amidst much confusion, protested against the term of "half sovereign" being applied to the stones when there was a proper name that might be used. Mr. Wesson:—"Sit down. You shall have the order." (Confusion.) Very dignified for a "parliament," certainly.

The Kirkcaldy Masons.—Circulars have been issued to the masons of the Kirkcaldy district stating that their employers had come to the conclusion to reduce their wages to the extent of ½*d*. per hour. The men at once had a meeting, at which they agreed to oppose the reduction. This determination was intimated to the masters, who agreed to withdraw the circular, and give the present rate, 8½*d*. per hour, as usual.

A Workmen's Hall and Club for Chelsea. Under the management of a body of directors associated under the title of the Chelsea Hall and Club Association, a working men's club has been established at 147, Fulham-road. It was first formed in 1872, to provide a place of resort for artisans, tradesmen, and the industrial classes generally, at the moderate subscription of 5s. annually. The intentions of the promoters were greatly encouraged by the generous liberality of Mr. C. J. Freake, who presented them with a piece of land 62 ft. in length by 32 ft. in width, on which to erect a club-house. Mr. Freake also gave the association 195*l.*; and other influential friends, including the two members for the borough of Chelsea, have given it their support. At the present time there are, including shareholders and non-shareholders, 500 members of the club. The third anniversary has just been celebrated.

St. Michael's Tower, Southampton.—Funds are being raised to place the tower and spire of St. Michael's Church, Southampton, in a satisfactory state of repair, its condition at present being such that the bells cannot be rung with safety. An inspection of the tower and spire has been made by Mr. J. Colson, architect, of Winchester, who reports that the stonework of the spire requires to be repaired in five places, where it has been damaged, apparently by lightning. The bell-frames and floor are also in a very bad state. The exterior stonework to the four windows of the belfry requires renewing, and the external facing of the four sides of the tower should be examined and pointed where found necessary. The cost of these and other repairs is estimated at from 175*l.* to 200*l.* In addition to this amount a further sum of 350*l.* is required to be expended on the bells.

Building Enterprise in Coleraine.—At no time, particularly during the winter months, have houses risen in larger numbers or with greater rapidity than now, chiefly in the northern and eastern quarters of the town. The most noticeable is the companion building to the dwelling-house finished last year on the Lodge-road, the property of Mr. David Baxter. North of Alexander-terrace a range of houses is rising, and closer to the Railway Station, Mr. Hugh Miller is engaged in running up [so the *Coleraine Chronicle* phrases it] a useful block, intended, from the size of the houses—two stories in height—for the bettef class of artisans; and in continuation of the south side of the west end of the Horse-road, there is a row of some eight houses of a similar class in course of erection by Mr. Thomas Caldwell.

Memorial Pulpit in Ecclesfield Church.—A carved oak pulpit has just been erected in the parish church, Ecclesfield, in memory of the late Mr. W. F. Dixon, of Page Hall, and Mrs. Dixon, by their daughters. The pulpit is from a design by Mr. W. White, F.S.A., of London, and has been supplied by Mr. Hayball, of Cavendish-street, Sheffield. The shape of the pulpit is octagonal, and the panels are filled with subjects from the life of St. Paul as follows:—"The Conversion of St. Paul;" "The Apostle Preaching on Mars Hill;" "His appearance before King Agrippa;" and "His Shipwreck when on his way to Rome." The carving of the panels has been executed by the firm of De Boeck & Van Wint, of Antwerp. A new lectern, by Mr. Hayball, uniform with the pulpit, has also been presented by an anonymous donor.

The Liverpool Skating-Rink.—A new skating-rink has been opened at Liverpool. It has been constructed by Messrs. Dixon & Co., contractors, and has a low galvanised iron roof. It comprises a ladies' dressing-room, pay-office, skate-room, and gentlemen's dressing-room, which offices stretch across the north end of the building. Beyond these is the covered rink, 145 ft. by 60 ft., with a raftered roof, from which hangs a long row of gas jets, with pendents; and this roofed portion covers 900 square yards. The left (or east) enclosure is composed of glass and iron, and opens by three broad apertures on to the uncovered rink, about twice the size of the first one. At the lower end of the roofed space are a refreshment-bar and a second gentlemen's dressing-room; while on both sides are forms. The entire skating space covers about 3,000 of the 4,000 yards.

Paint.—The Conservative and the East Indian Clubs, London, have just been painted and decorated with the Silicate and Enamel paint manufactured by the Silicate Paint Co., Liverpool.

New Public Hall at Tain, N.B.—A new public hall was opened at Tain on the 18th ult. The hall is 72 ft. long, 32 ft. wide, and 32 ft. 6 in. high. Including a gallery in the north end with accommodation for 100 persons, the hall is seated for between 500 and 600 persons. The building stands in a prominent position fronting Academy-street. The style of architecture is French Renaissance. The front is divided into a centre-piece, with two projecting towers, the centre being surmounted by a pointed gable. The height of the central frontage is 66 ft., and it is flanked by two blocks of buildings, in which are cloak-rooms, &c. The hall has been erected by a joint-stock company, the chief promoter of which is Mr. Murray, of Geanies. The cost has been upwards of 2,500*l.*

Apparatus for Recording Earthquakes.—At a meeting of the Edinburgh Geological Society, on the 20th ult., Dr. Bryce called attention to the arrangements at Comrie for recording earth-shocks. The *seismometer* in the parish church tower there having been the only means for many years of noting earthquakes, the committee of the British Association on this subject, of which he was convener, had lately fitted up in the grounds of Mr. Drummond, of Dunearn, other apparatus, which it was thought would give better indications. This consisted of upright cylinders of different diameters placed in such a position upon flat planks that they would fall among fine sand with even faint shocks, and would so indicate both direction and intensity.

"Notes on the Architecture of Three Italian Cities."—A paper on this subject was read on the 31st of January, at the Belfast Architectural Association, by Mr. Robert M. Young, honorary secretary. The chair was occupied by Mr. Joseph John Murphy. The essayist took for his subject the three Italian cities, Verona, Venice, and Padua, and he gathered his facts from a visit he paid to those cities in 1874. He spoke of the churches and public edifices in those places, and described them very minutely. The paper was illustrated by a number of drawings, and was criticised by the Rev. Dr. MacIlwaine, Mr. Lockwood, and Mr. W. H. Patterson.

The Philadelphia Exhibition.—By telegram received from America, the executive Commissioners are informed that the usual declaration on oath before a United States Consul is not necessary in the case of invoices of goods for the Exhibition. The American authorities will accept in lieu thereof, as on the occasion of the Vienna Exhibition, the formal certificate and seal of the Executive Commissioner. These certificates can now be obtained at the office of the Commission, 5, Craig's-court, Charing-cross, London, and as the various buildings are ready for the reception of goods, it is expedient that the consignments from this country should be despatched with the least possible delay.

Birmingham Architectural Association. Last week a paper on stone-carving was read at the rooms of the Association by Mr. J. Roddis, sculptor. The lecturer commenced by tracing the history of ecclesiastical carving in England, beginning with the Romanesque period, and carefully describing the several peculiarities and purposes of the succeeding styles as far as the Perpendicular period. The lecture was illustrated by a series of his sketches and casts from some of the best examples. Mr. Roddis also exhibited a set of working drawings by the elder Pugin. The meeting terminated with a hearty vote of thanks to the lecturer.

The Dundee Painters.—The Dundee Operative House and Ship Painters have unanimously agreed to memorialise the employers for an advance of wages at the rate of ½d. per hour, to take effect on and after 1st of April next, an answer to be received not later than March 17th. A committee has been appointed to draw up a code of bye-laws to regulate the working of the trade, which should be binding on employers and employed, the same to be submitted to the employers at an early date for their consideration.

Proposed New Harbour at Scrabster.—A proposal has been made by the Thurso Town Council to the Scrabster Harbour Trustees to erect a new harbour at the mouth of the River Thurso, suitable to the requirements of the growing trade of the place. It is stated that the works could be constructed for 7,000*l.*, and that the present trade would do much more than meet the interest.

Proposed Art-Exhibition at Wrexham.—The Lord-Lieutenant of Denbighshire has issued the prospectus of the Art-Treasures Exhibition, to be held in connexion with the Wrexham Eisteddfod. It is proposed to open it contemporaneously with the Eisteddfod, and to keep it open for two months. The exhibits are to include paintings by the old masters, representing the different schools, and also modern art, water-colours, and other drawings, sculpture, a gallery of Welsh worthies, ornamental art and antiquities, Oriental art, &c. It is proposed to hold popular lectures on the contributions. Mr. W. Chaffers has accepted the post of superintendent and hon. sec.

Society for the Encouragement of the Fine Arts.—The general meeting of this society took place on the 27th ult., Mr. James Edmeston in the chair. In opening the proceedings the chairman congratulated the members on the continued progress of the society. The honorary secretary, Mr. Augustus G. Babington, then read the report, which was unanimously adopted, as was also the financial statement put before the meeting by Mr. William Atkinson, the honorary treasurer.

Lighting Railway Stations by Electricity.—It is stated to have been decided to light all the waiting and luggage rooms of the principal railway-stations in Paris by means of electricity. By working the Graham machine with three-horse power, it is said that as much light is obtained as that given by a hundred gaslights. The electric lantern is placed at a height of 10 mètres from the ground, and sheds a soft, clear light over an area of 20,000 square feet.

Water Supply of Beyrout.—A letter from Beyrout says that a new water supply has been introduced into the town of Beyrout, from the Dog River, which is two or three hours to the north of the city, and near which are several well-known tablets with Assyrian, Egyptian, and other inscriptions. The works were executed by an English company, under the superintendence of Mr. Maxwell, an English engineer, assisted by Mr. Huxley and others.

Royal Historical and Archæological Association of Ireland.—The January meeting was held on the 19th ult., at the Association Apartments, Butler House, the Rev. Charles A. Vignoles in the chair. Various new members were elected. This being the annual meeting, the report of the committee for the past year was brought up and read by the Rev. James Graves, the indefatigable hon. sec.

Institution of Surveyors.—In compliance with special requests from many of the members, the council have arranged for a discussion of the provisions of the Agricultural Holdings Act coming into operation on the 14th proximo. The discussion will be opened by Mr. D. Watney at the next meeting (Monday, February 7th). The chair to be taken at *eight* o'clock.

Museums in Rome.—A new museum has been opened in the Palazzo Tenerani, Via Nazionale, consisting of upwards of 450 models and masterpieces of Pietro Tenerani, the celebrated sculptor. They are arranged in six halls, and the catalogue is by Professor Raggi. A new Mediæval museum was opened on January 16th. It is in the upper floor of the old Collegio Romano.

Mr. R. Tress.—According to the *City Press*, the will and codicil of Mr. Richard Tress, of Queen-street, Cheapside, architect, who died at his private residence, No. 4, Albert-road, Regent's Park, on the 29th of October last, were proved under 9,000*l.*, on the 23rd ult. by Mrs. Susan Headly Tress, the widow of the deceased, the sole executrix, to whom he leaves all his real and personal estate absolutely.

Colchester Museum.—In view of the visit of the British Archæological Institute to Colchester in the summer, great alterations and improvements are to be made in the Castle, the Museum, and the adjoining property, through the instrumentality of the owner, Mr. James Round, M.P., in conjunction with the Committee of the Essex Archæological Society.

A Butcher's Shop at Nottingham.—A butcher's shop-front would not appear to afford much scope for architectural talent; but from what we read, a new shop of the kind just erected in Angel-row, Nottingham, for Mr. C. Simkins, presents one or two points worthy of imitation. It has been erected from a design by Mr. W. A. Heazell, architect, Nottingham.

New Lecture Hall at Hawkhurst.—The new Lecture Hall at Highgate, Hawkhurst, erected at the cost of Mr. Henry Maynard, of Oakfield, was opened on the 25th ult. The building, which is in the "Old English" style, has been erected from a design by Mr. Alfred Williams, and will seat 400 persons.

Jubilee of the Menai Suspension Bridge. A public dinner was given at Menai Bridge on the 31st ult., in celebration of the fiftieth anniversary of the opening of Telford's suspension bridge. The first stone was laid in August, 1819, and the bridge was opened on the 13th January, 1826.

Cases for Philadelphia.—Mr. F. Sage known as a show-case manufacturer, has published an illustrated catalogue of designs for counters and cases suitable for the Philadelphia Exhibition. Some of them are repetitions of those he put up at Vienna. Practice gives facility.

The O'Connell Statue in Dublin.—At a meeting of the O'Connell Monument Committee in Dublin on the 28th ult. it was resolved to have a cloaked statue. The controversy is now stated to be finally settled. Quite right. The cloak was his distinctive feature.

A Use for Sadler's Wells Theatre.—Sadler's Wells, the oldest theatre in London, is said to be sold at last. Arrangements are in progress for its immediate conversion into,—a skating-rink of course.

Society of Engineers.—The first ordinary meeting of the society for the year 1876 will be held on Monday, the 7th of February next, when the president for 1876, Mr. Vaughan Pendred, will deliver his inaugural address.

Rinks.—The fact that the Société Française des Asphaltes are now completing four rinks, at Highbury, Putney, Kennington, and Surbiton, says something in favour of Seyssel asphalte as a material for the floors.

The Poole Surveyorship.—At a meeting of the Poole Town Council on the 21st ult., Mr. E. Pearce was appointed surveyor, at a salary of 100*l.* per annum.

The Abbey Church of St. Alban's, Herts. Her Majesty the Queen has consented to become a subscriber for one copy of Mr. Neale's work.

TENDERS

For the erection of a police station, petty sessions room, superintendent's and constables' residences and offices, Hughenden-road, High Wycombe, Bucks. Mr. Charles Carter, architect. Quantities supplied :—

Hook & Oldrey	£5,497	0	0
Woodbridge	4,933	0	0
Cooper	4,833	0	0
Silver & Son	4,680	0	0
Hunt	4,498	0	0
Spicer	4,450	0	0
Loosley (accepted)	4,446	0	0
Taylor & Grist*	4,300	0	0
Biggs*	3,760	0	0
Smith & Fletcher*	3,025	0	0

* Withdrawn.

For alterations to Blackfriars' Tavern, Queen Victoria-street :—

Langmead & Way, accepted.

For the erection of the East London Synagogue, Rectory-square and Stepney-green, E. Messrs. Davis & Emanuel, architects. Quantities by Mr. Frederick Downing :—

	Main Building.	House.
Merritt & Ashby	£6,320	£890
F. & F. J. Wood	6,337	847
Williams & Son	6,190	900
Dove, Brothers	6,150	845
Lathey, Brothers	5,892	831
Brown	5,760	840
Brass	5,740	784
Ennor	5,635	762

For new schools, Canonbury-road, Islington, for the School Board for London. Mr. E. R. Robson, architect. Quantities by Mr. W. H. Barber :—

Hill, Higgs, & Hill	£7,414	0	0
Dove, Brothers	7,345	0	0
Roberts	6,844	0	0
Williams	6,833	0	0
Grover	6,683	0	0
Hobson	6,665	0	0
Kirk & Randall	6,659	0	0
Browne & Robinson	6,634	0	0
Brass	6,512	0	0
Perry	6,510	0	0
Jerrard	6,443	0	0
Pritchard	6,441	0	0
Downs	6,382	0	0
Wall, Brothers	6,361	0	0
Clarke & Bracey	6,336	0	0
Lawrence	6,279	0	0

For mansion and stables at Newton Court, for Mr. J. Totteridge :—

Timewell	£12,672	0	0

For additions and alterations to schools, Hornsey-road, for the School Board for London. Mr. E. R. Robson, architect. Quantities by Mr. T. M. Rickman :—

Sheffield	£4,319	0	0
Kirk & Randall	4,227	0	0
Hook & Oldrey	4,158	0	0
Williams	4,119	0	0
Roberts	4,094	0	0
Goodman	4,064	0	0
Newman & Mann	4,062	0	0
Downs	4,052	0	0
Grover	4,048	0	0
Wall, Brothers	4,040	0	0
Ennor	3,941	0	0
Boyce	3,934	0	0
Hobson	3,927	0	0

For taking down and rebuilding No. 9, Lilypot-lane, City. Messrs. Ford & Hesketh, architects. Quantities supplied :—

Merritt & Ashby	£1,966	0	0
Killby	1,847	0	0
Anley	1,770	0	0
Kirk & Randall	1,728	0	0
Scrivener & White	1,718	0	0
Hobson	1,669	0	0
Mark	1,668	0	0
Brass	1,606	0	0
Crabb	1,529	0	0
Lawrence	1,489	0	0
Boyce	1,484	0	0

For asphalting the footways in Brook-street, Hammersmith :—

Brunswick Rock Asphalte Company	£150	0	0
Val de Travers	137	0	0
Société Française des Asphaltes (accepted)	122	10	0

Accepted for general contracts for works and supplies for the Vestry of the parish of Chelsea. Mr. G. H. Stayton, surveyor :—

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A. & F. Manuelle, at 13s. 6d. per ton.

Enderby Granite for One Year.

Nowell & Robson, at 14s. per ton.

For a new Baptist Chapel, to be erected in the Finsbury-road, Wood-green. Mr. Banister Fletcher, architect. Quantities supplied by Mr. R. C. Gleed :—

Chessum	£3,876	0	0
Mattock	3,342	0	0
M'Cowan	3,255	0	0
Downs & Co.	2,815	0	0
Vincent	2,658	10	0

For additions and repairs to No. 14, Hill-street, Berkeley-square. Mr. A. Mosley, architect :—

Stempson & Co.	£2,488	0	0
Bywater	2,039	15	0
Pickersgill (accepted)	1,830	0	0

TO CORRESPONDENTS.

Inquirer (we know of no plan, within reasonable limits, by means of which a building near a railway station, and close to the line, can be rendered sound-proof and thereby made suitable for a Cottage Hospital).—T. B. (send particulars. Result of the competition appeared in our last).—Architect (correspondents who do not write their names plainly must put up with being miscalled. We will not rectify the error caused by the writer himself).—A. C. (ditto. We do not believe in a man who signs his name so that it cannot be read).—H. R.—T. F. M'C.—G. H.—G. T. C.—W. D. C.—C. S.—H.—S.—N. M.—D. W.—J. W. R.—A. C.—Capt. T.—C. & Co.—J. N.—M. E. H.—E. W. J.—C. M.—P. & B.—J. B.—L. A.—W. D.

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